

Contents

1. General information	2
1.1 Basic information about KNX/EIB-BUS	2
1.2 Application versions	2
1.3 Symbols used	2
1.4 Application	2
1.5 Manual operation	2
1.6 Functions	2
ETS parameters	3
2. Channel selection	3
3. Traversing times	3
3.1 Measuring traversing times	3
3.2 Traversing time	3
3.3 Incremental slat adjustment (only for blinds)	4
3.4 Slat adjustment time (only for blinds)	4
3.5 Reversal pause	4
3.6 Motor activation/deactivation delay	4
3.7 Slat position at the end of the movement (only for blinds)	5
4. Absolute position objects	5
4.1 Reference movement	5
4.2 Absolute position commands	6
4.3 Status objects (current position/direction)	6
4.4 Reporting objects	6
5. Traversing distance limit	6
6. Central objects	7
7. Scenes	7
7.1 Scene sub item	7
8. Automatic function	8
8.1 Automatic function	8
8.2 Automatic blocks	9
9. Activating the alarm function	9

10. Alarm function	10
10.1 Alarm priority	10
10.2 Alarm Types	10
10.3 Cyclical monitoring	10
10.4 Reset/cancel action	11
11. Behaviour in the event of bus power failure/restoration	11
12. Disable function	11
13. Communications objects	13
13.1 Overview	13
13.2 Standard settings for the communications objects	13
13.3 Global communications objects	14
13.4 Communications objects automatic function	14
13.5 Communications objects per channel	15
14. Technical data	17

1. General information

1.1 Basic information about the KNX/EIB BUS

The **B.E.G.** KNX actuators for blinds receive their operating voltage from the 230V mains. At the same time, telegrams are transmitted and received through the KNX bus connection.

To this end, the communications objects for the actuator for blinds must be connected to the desired communication objects of the other sensors.

Settings are made using the ETS 3/4 programming software. A KNX commissioning and project planning course is required for these instructions to be understood.

Before you can work with them, B.E.G. applications need to be imported into the ETS software. The applications may be imported using the menu in the ETS software: File → Import, then select and import application.

Attention:

It is important to check the objects' data Types. For instance, a one-bit object can only work with a one-bit object from another device.

1.2 Application versions

Switching actuator applications, Version 1.0:

90190 = Blinds, shutters, fourfold
90191 = Blinds, shutters, eightfold
90192 = Blinds, shutters, fourfold

Article number:

90190 = KNX SBA-4C-230V
90191 = KNX SBA-4C-24V
90192 = KNX SBA-8C-230V

1.3 Symbols

The following different symbols are employed for a better overview in the following description of the application. The symbols are explained in brief below.

Attention:

This symbol draws attention to passages of text that are required reading in order to prevent project planning and commissioning errors.

Recommendation:

This symbol indicates parameters to be set, for example, that will enable the device to be used in the best way possible. This symbol indicates parameters to be set, for example, that will enable the device to be used in the best way possible.

1.4 Application

With the blind actuator, both blinds and shutters can be controlled. Depending on the hardware design up to 8 shutters or blinds can be controlled.

Each channel can be adapted to the parameterization of the particular blind/shutter. The channels can either be set manually into certain traversing times or approach absolute positions. Furthermore it is possible to limit the traversing way of the shutter actuator and to adjust the covers at the shutter.

Additionally it can be turned on/off at mounted devices as manual operation. With manual operation the shutter/blinds can be operated manually.

1.5 Manual operation

Four buttons permit manual operation. The two top buttons (right/left) allow the channel to be selected for manual operation. The up or down movement may then be initiated with the two bottom buttons (up/down).

1.6 Functions

The functionality is identical for all channels, the unit possesses up to eight channels depending on the hardware Typee.

The channels are always marked in consecutive alphabetical order.

There are three possible functions:

- **Deactivated**
No other function is assigned to the channel. This also means that it is also not possible to set any other parameters for this channel.
- **Blinds**
- Choosing a channel for shutters provides users with different ways of setting the parameters for controlling shutters as desired. The different possible traversing time settings allow the control for shutters to be adapted as desired and so allow the traversing times for the shutters, a reversal pause and a motor delay to be set.
- If is also possible to set absolute positions, traversing limits, scene functions, automatic functions and weather alarms.
-
- **Shutters**
- Choosing a channel for shutters provides users with different ways of setting the parameters for controlling shutters as desired. The different possible traversing time settings allow the control for shutters to be adapted as desired and so allow the traversing times for the shutters, a reversal pause and a motor delay to be set.

Application program description for KNX-actors for blinds



- If it is also possible to set absolute positions, traversing limits, scene functions, automatic functions and weather alarms.

The functions for blinds and shutters are in principle identical. The only difference is that there is no slat control for shutters.

ETS parameters



Attention:

Every time new parameters are transmitted, the blinds/shutters must be lowered completely and then raised completely so that the actuator for the blinds is able to recognize the reference values (also see reference movement).

2. Channel selection

Channel Selection	
Channel Selection	
Channel A: Shutter	
Channel A: Scene	
Channel A: Automatic	
Channel A: Block	
Channel B: Blinds	
Channel E: Blinds	
Channel H: Shutter	
Automatic function	

Channel Selection	
Channel A	Shutter
Channel B	Blinds
Channel C	not activ
Channel D	not activ
Channel E	Blinds
Channel F	not activ
Channel G	not activ
Channel H	Shutter

Every one of the available one to eight channels may be assigned one of the three available states from within the "Channel selection" sub item. The further parameter settings for this channel depend on the respective state. If a channel is selected as "Not active", it will not be possible to set any further parameters. If a channel is selected for blinds or shutters, the left selection menu will display the respective channel in the format Channel A: Blinds/Shutters.

Selecting the respective channel will enable additional parameters to be set in accordance with individual requirements. The possible parameter settings depend on the respective channel function.

Parameter values:

- not active
- Blinds
- Shutters

3. Traversing times

Channel A: Shutter	
Time for movement for Up/Down (sec)	same
Time for movement (sec)	45
Step time for blinds (ms)	200
Duration of blinds adjustment (ms)	1200
Pause at change of direction (ms)	500
Switch-on delay motor (ms)	0
Switch-off delay motor (ms)	0
Position of blinds at end of driving	50%

Channel B: Blinds	
Time for movement for Up/Down (sec)	different
Time for movement for UP direction (sec)	45
Time for movement for DOWN direction (sec)	45
Short time operation	activ
Time for movement for short time operation (ms)	200
Pause at change of direction (ms)	500
Switch-on delay motor (ms)	0
Switch-off delay motor (ms)	0

The traversing times allow the actuator for blinds to be adapted to the respective blinds/shutters and the corresponding motor as desired. To ensure the smooth working of the traversing functions, the individual traversing times must be very carefully adapted to the specific travelling times for the blinds/shutters. Traversing times for the slats may also be set for a channel for blinds in addition to the traversing times for shutters ((should that be shutter / blinds here?)).

3.1 Measuring traversing times

The individual traversing times for blinds/shutters can usually be precisely determined with the help of a stopwatch.

However, using stopwatches may be difficult when traversing times are very short. It is recommended in such cases to initially set an approximate value that is a little shorter than the actual traversing time. This will allow you to trigger the respective position commands and check whether the end positions are reached. If this is not the case, the value should be gradually increased in small increments until the blinds/shutters reach the end positions.

3.2 Traversing time

Setting the traversing time allows the actuator for blinds to be set to the respective time required to move the blinds/shutters from one end position (fully open or fully closed) into the other end position. The actuator for blinds therefore controls the up or down

movement for the set time. Once this set time has elapsed, the actuator for blinds will automatically deactivate the relay for the respective channel even if the end position has not yet been reached.

⚠ Where necessary, check whether the manufacturer has provided any information about running times.

Parameter values:

1-1000sec, may be freely parameterized (default 45 sec)

3.3 Incremental slat adjustment (only for blinds)

The incremental slat adjustment allows the increments by which the slats are to be turned to be set. The slats' opening angle may be adjusted in small increments in order to, for example, prevent dazzling as the direction of the sun changes throughout the course of the day.

This setting also permits the increments to be set in such a way that the slats move in a certain number of increments from the state "fully open" to "fully closed" and vice versa. The slat adjustment's increment must to this end be set to a multiple of the slat adjustment time. The multiple specifies the number of steps required to reach one end position from the other.

Example:

Slat adjustment time = 3000ms

Slat adjustment's increment = 300ms

→ Number of increments = 10 → which allows the values of 0%, 10%, ..., 100% to be realized

Parameter values:

50-1000ms, may be freely parameterized (default 200ms)

3.4 Slat adjustment time (only for blinds)

This slat adjustment time sets the time required for the slats to move from 0% to 100% and vice versa. The actuator for blinds therefore controls the slat adjustment for the duration of the set value.

Tip for measuring very short slat run times

- Move the slats into one end position (either fully closed or fully open)
- Now send increment commands until the other end position has been reached
- Multiply the number of increments with the time set for the slat adjustment's increment
- Use the result as the slat adjustment time

The procedure described for measuring the traversing times is recommended for long slat adjustment times.

Parameter values:

10-10000ms, may be freely parameterized (default 1200ms)

3.5 Reversal pause

The reversal pause is to protect the shutter motor should the actuator for blinds receive commands to move up and down at the same time. Immediate switching from the one direction into the other may considerably reduce the motor's lifespan and in some cases even completely destroy it.

When an actuator for blinds receives a traversing command for one direction while it is already executing a traversing command in the other direction, the actuator for blinds will first deactivate both traversing commands. The actuator for blinds will then wait for the time set as the reversal pause before it will then activate the relay for the next direction of movement.

The reversal pause applies both to the reversal of the direction of movement (up/down) and slat adjustment.

⚠ The motor may be damaged if the parameters for the reversal pauses are not set for a sufficiently long period of time.

Please make sure that you read the manufacturer's specifications in the motor's data sheet.

Parameter values:

1-1000ms, may be freely parameterized (default 500ms)

3.6 Motor activation/deactivation delay

Some motors do not deliver their full performance immediately after they have been switched on, sometimes it takes a few milliseconds for them to do so. The time that the motor requires until it reaches its full performance may be compensated with the "Motor activation delay" setting.

Some motors continue to run for a few milliseconds after they have been deactivated. This behaviour may be compensated with the "Motor deactivation delay" setting.

Parameter values:

0-255ms, may be freely parameterized (default 0ms)

3.7 Slat position at the end of the movement (only for blinds)

The "Slat position at the end of the movement" setting allows the position of the slats to be set after the up or down movement has been concluded. This is the position that the actuator for blinds will assume after the blinds have been moved. The slat position at the end of the movement can be set in 1% increments ranging from 0 to 100% whereby 0% is fully open and 100% is fully closed.

Parameter values:
0-100% (default 50%)

4. Absolute position objects

Objects for absolute position	activ
Reaction after driving to reference	no reaction
Status objects	activ
Status object for visualization	Status actual direction

Activating objects for the absolute position makes it possible to achieve absolute height positions and, on blinds, absolute slat positions. The current height positions and the current slat positions may also be called up.

It is also possible to specify responses to the conclusion of reference movements (for detailed information, see reference movement).

Parameter values:

Absolute position objects:

- Not active (default)
- Active

Response after reference movement:

- No response
- Move to previous position

4.1 Reference movement

The actuator for blinds calculates its current positions from the set traversing times. External effects may over time, however, cause slight shifts in actual traversing times.

A reference movement will recalculate the set traversing times and will in this way provide the actuator for blinds with new values for the traversing times. The actual blinds/shutters position may then be calculated more precisely on the basis of these new values.

The reference movement is particularly useful when absolute position commands are used. This allows the actuator for blinds to calculate the entered position and travel to it more precisely.

The reference movement is activated through the one-bit "Start reference movement" communications object using a 1-signal. The "Response after reference movement" parameter allows the action to be set that the actuator for blinds must execute after a reference movement. It may return to the position which was active before the reference movement (Setting 1, Table 9). The "No response" setting will mean that the actuator for blinds will remain in the position it has reached on conclusion of the reference movement.



A reference movement must be carried out every time new parameters are transmitted. This may be done manually, i.e. the blinds/shutters must be moved to the top and bottom positions, or with the "Start reference movement" object. The actuator for blinds will only know its current status along the traversing distance when it has carried out a reference movement.

4.2 Absolute position commands

The absolute position objects allow fixed values to which the blinds are to be traversed to be specified for the actuator for blinds. This value may be stated in per cent and may range from between 0 and 100%. The actuator for blinds will in the next step calculate the actual traversing time using the specified percentages. The traversing time will depend on the set traversing time and the current position.

The percentages displayed are always either fully open (0%) or fully closed (100 %).

4.3 Status objects (current position/direction)

The "Current position" and "Current slat position" status objects are for displaying absolute positions. The two objects indicate the current slat height and opening angle at the end of each movement. These objects may be used, for instance, for visualization purposes.

4.4 MeldeObjecte

The one-bit "Status bottom position" and "Status top position" objects each output a 1-signal when the bottom/top end position has been reached. As soon as blinds/shutters move from the end position, the signal changes from 1 to 0. The two objects may be used for monitoring the blinds/shutters.

The one-bit "Current direction" object indicates an upwards movement with a logical "0" and a downwards movement with a logical "1". The status is always output as soon as a movement has started and will remain internally in place until a new up/down command is transmitted.

The one-bit "Current position valid" indicates to users that a reference movement has already been carried out after programming. This object may be used for visualization to indicate to users that a reference movement still has to be carried out.

5. Traversing distance limit

Limitation of driving area	activ
Lower limit	0%
Upper limit	100%

The traversing distance limit parameter may be used to set limits for the up and down movements.

The actuator for blinds will regard the new limits as new virtual end stops. If a lower limit of 40% is specified, for example, the actuator for blinds will report that it has reached the bottom position when this value has been reached. This is effected through the "Status bottom position" object. The value 0% will be output for this height via the "Current position" object.

The one-bit "Go to limit" communications object allows the up and down movement to be controlled within the set limits. As with the standard traversing commands, the upward movement for this object is started with a 1-signal and the downward movement is started with a 0-signal.

ⓘ Movements to the actual end stops remain possible with the normal "Blinds/shutters up/down" traversing objects. However, the actuator for blinds will already signal when the 0 and 100% limits have been reached for the current position.

Parameter values:

Traversing distance limit:

- Not active (default)
- Active

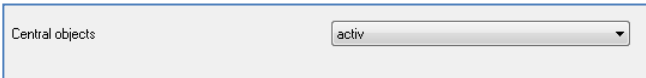
Bottom limit:

- 0-100%, may be freely parameterized (default 0%)

Top limit:

- 0-100%, may be freely parameterized (default 100%)

6. Central objects



The "Central objects" parameter makes it possible to define for each channel whether this channel should respond to the central objects.

The central communications objects are permanently displayed even when the "Central objects" parameters have not been activated in any channel. The central objects are shown as "All channels" and are located at the top of the list of communications objects.

Activating the central objects in selected channels allows several channels to be controlled simultaneously using a single command.

Object 0, "Blinds up/down", is the central traversing command here and applies both to the blinds channels and the shutters channels in which the central objects have been activated.

Object 1, "Slat adjustment/stop", is only significant for blinds channels where the central objects have been activated. This object is for manually adjusting slats and stops any current traversing movement that the blinds are executing.

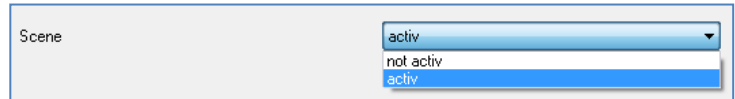
Object 2, "Stop", is the central stop command for all channels. Object 3, "Absolute position", also applies both to shutters as well as to blinds channels with activated central function. Absolute height positions may be transmitted to the channels with this command.

Object 4, "Absolute slat position", is only significant for blinds channels in which the central objects have been activated. Absolute slat positions may be transmitted to the blind channels with this command.

Parameters:

- Not active (default)
- Active

7. Scenes

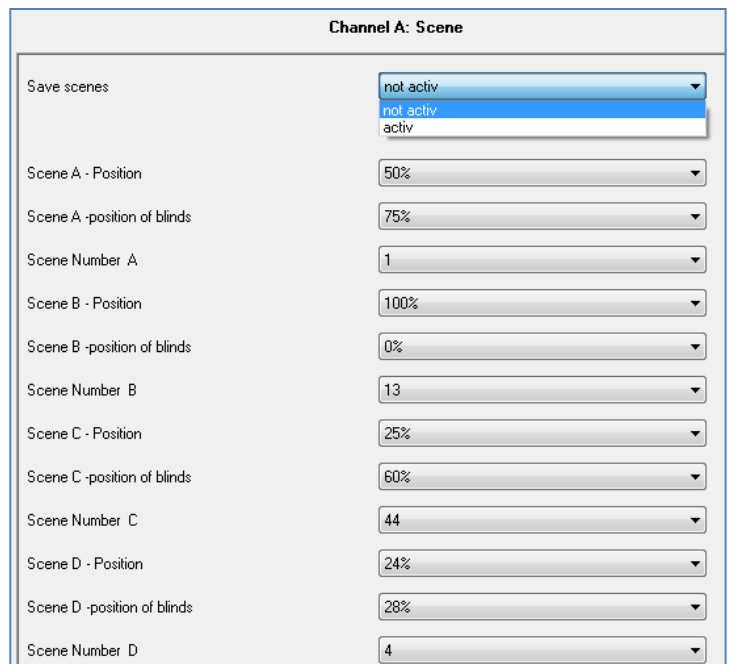


The scene function for the actuator for blinds allows the channels to be integrated into a scene control. The parameters for up to eight scenes may be set for each output. The corresponding scene tab will appear for this switching output when the scene function is activated in the output. This is where the individual scenes may be activated and values, scene numbers and memory functions may be set to ON/OFF.

Scenes are activated when the scene number on the scene object is received. The current channel values will be saved with the scene's object value when the memory function is activated in the scene. Scene communications objects always possess a size of one byte.

In order to call up a specific scene, the value for the respective scene must be sent to the scene function's communications object. The value for calling up the scene is, however, always one number lower than the set scene number. If, for example, Scene 1 is to be called up, a 0 must be sent. Scene numbers may range from 1 to 64, the values for calling up the scenes, however, only range from 0 to 63.

7.1 Scene sub item



Channel A: Scene	
Save scenes	not activ
Scene A - Position	50%
Scene A - position of blinds	75%
Scene Number A	1
Scene B - Position	100%
Scene B - position of blinds	0%
Scene Number B	13
Scene C - Position	25%
Scene C - position of blinds	60%
Scene Number C	44
Scene D - Position	24%
Scene D - position of blinds	28%
Scene Number D	4

For each channel, there are eight possible memory settings for the scenes. The eight storage spaces are named from A to H. One of the 64 possible scene numbers may be assigned to each of the eight scenes (Scenes E to H analogous this to the first four).

i The sub-function for the shutters scenes is almost identical to that for the blinds scenes. However, the shutters scenes do not have any slat positions.

When the scene function is activated in a channel, a scene sub item will appear for this channel. A response for when the scene is called up may be assigned to the channel in this sub item. This response includes an absolute height command (0 – 100%) for this channel / an additional slat position for blinds channels. Each channel is able to respond to eight different scenes. Sending the response value for the respective scene calls up the scene and the channel assumes its set state. The individual parameter settings for the respective channel are also taken into account here. If, for example, the channel is to be moved to 0% when Scene A is called up and it is currently moving downward at 70%, a programmed reversal pause would be executed before the channel starts moving up to the value 0%.

During programming, when two or more channels are to respond to the same scene number, it must be noted that the communications objects for the scenes need to be accommodated within the same group addresses. All channels will then be addressed when the address value for the scene is transmitted.

i When programming the scene function, it is useful to create divisions according to scenes in order to achieve a tidy programming structure. If a channel is to respond to eight scenes, the corresponding communications object for the scene will also be integrated into eight group addresses.

Parameter values:

Save scene

- Not active (default)
- Active

Scene (A..H) – Position

- 0-100% (default 0%)

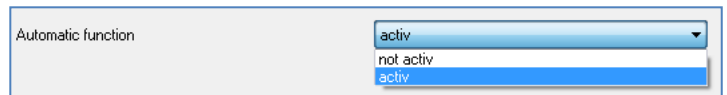
Scene (A...H) – Slat position

- 0-100% (default 0%)

Value Scene (A...H)

- 1-64 (default 1)

8. Automatic function



An automatic function may be activated for each channel. Up to four different conditions may be called up for each channel using the automatic function. The automatic function is divided into two blocks (A and B). The automatic function also makes it possible to execute several actions simultaneously, e.g. travelling to a shutters and blinds position while simultaneously adjusting the position of the blinds' slats by a single command.

When the automatic function is activated for a channel, the left selection menu will display a new sub item (Channel X: Automatic) for the automatic function; additional settings may be made here.

Parameter:

- Not active (default)
- Active

8.1 Automaticfunktion

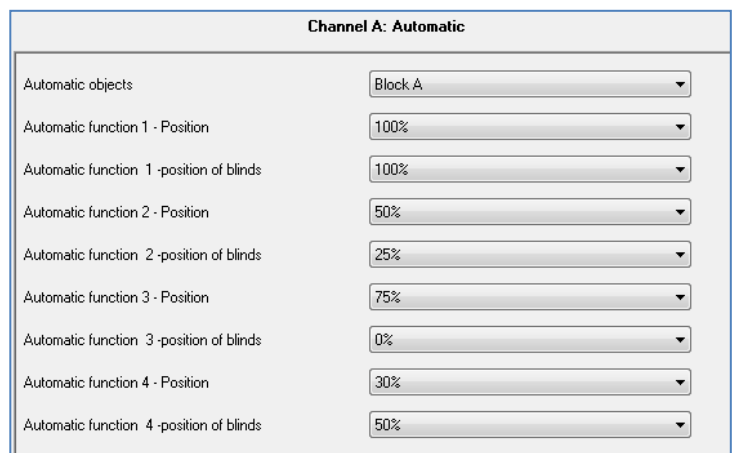


Fig. 16: Automatic function sub item

Values for four different automatic call-ups may be saved in the sub function for the automatic function. These values are absolute values which are assumed when the respective automatic function is called up. It is also possible to define for each channel which automatic block the channel should respond to. Blocks A and B are available for selection here. How the blocks are activated is explained in "Automatic Blocks".

Parameter values:

Automatic objects:

- Block A (default)
- Block B

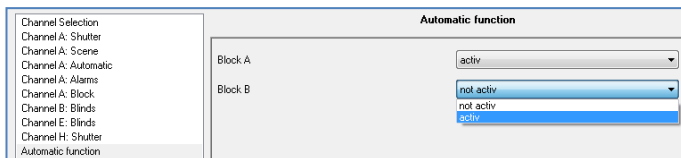
Automatic function (1..4) Position:

- 0-100% (default 0%)

Automatic function (1...4):

- 0-100% (default 0%)

8.2 Automatic blocks



The blocks set in the automatic function's sub item must be activated before the set values may be called up with the automatic function. Activation may be effected from the automatic function menu where Blocks A and B may be individually activated or deactivated.

The communications objects belonging to the activated block will be displayed when an automatic block is activated. Each block possesses four communications objects, one of which is for the corresponding automatic position.

Example:

Block A activated

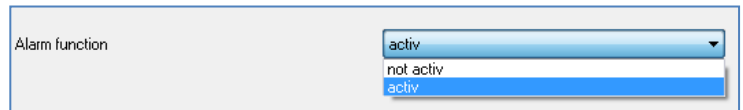
The following communications objects are displayed:

- 5: Automatic A - Automatic Position 1
- 6: Automatic A - Automatic Position 2
- 7: Automatic A - Automatic Position 3
- 8: Automatic A - Automatic Position 4

Communications objects with the size of one bit may then be assigned as desired to the group addresses.

Calling up one of the eight communications objects will call up the values saved for this automatic function. Calling up a communications object will make it possible to simultaneously move all the channels for the actuator for blinds or just a single channel to the set parameter. This will depend on the parameters for the individual channels set in the sub item or the automatic function (automatic function). In order to move several channels to specific values, the same automatic blocks must be selected for these channels and the desired values saved for the same automatic position.

9. Activating the alarm function



The alarm function enables the actuator for blinds to respond to specific situations and to initiate specific actions for the channels that will protect the blinds/shutters. A disable function may also be activated in the alarm function and the behaviour in the event of bus power failure or restoration may be defined. The alarm function may be activated separately and the parameters set individually for each channel.

A sub item (Channel X: Alarms), which allows the alarm function's parameters to be set, will appear for this channel in the left selection menu when an alarm function is activated for a channel.

ⓘ KNX weather stations may be used to procure signals for alarms. The actuator for blinds will then be able to process and implement them in accordance with the parameters set.

Parameters:

- Not active (default)
- Active

10. Alarm function

Channel A: Alarms

Order of alarms	Wind, Rain, Frost, Block
Action at reset of alarms	Drive to top
Wind alert	activ
Cycle Time (min, 0 = off)	30
Action	no action
Rain alert	not activ
Frost alert	not activ
Reaction when bus power down	Drive to bottom
Reaction when bus power up	Drive to top

When the alarm function has been activated, additional parameters may be set in the sub item displayed for the alarm function.

10.1 Alarm priority

When two or several alarms have been activated simultaneously, the actuator for blinds will process the alarms in accordance with the sequence set. The actuator for blinds will only carry out the action required for the alarm with the highest priority. The action for the alarm with the lowest priority will not be carried out as long as the alarm with the highest priority remains active. If the alarm with the highest priority becomes inactive, the action for the alarm with the lowest priority will then be carried out.

Parameter values:

- Wind alarm, rain alarm, frost alarm, disable (default)
- Wind alarm, rain alarm, disable, frost alarm
- Wind alarm, disable, rain alarm, frost alarm
- Disable, wind alarm, rain alarm, frost alarm

10.2 Alarm Types

Three different Types of alarm (wind alarm, rain alarm, frost alarm) may be activated for which additional settings may then be made. The corresponding communications object for an alarm will be displayed when an alarm has been activated. The alarm function is activated when the corresponding communications object receives a "1-signal". The alarm is deactivated by a "0-signal".

Parameter values:

Wind alarm:

- Not active (default)
- Active

Rain alarm:

- Not active (default)
- Active


Frost alarm:

- Not active (default)
- Active

10.3 Cyclical monitoring:

Cycle Time (min, 0 = off) 30 [0..120]

The alarm function's cyclical monitoring may be set separately for each of the three alarms. The setting range lies between 0 and 120 min., whereby the 0 min. setting deactivates cyclical monitoring. The communications object for the respective alarm must receive a signal during the set monitoring time otherwise the alarm will be automatically triggered. KNX weather stations possess settings defining at which intervals a cyclical transmission is to be sent. The time for cyclical transmissions should always be less than the monitoring time set in the actuator for blinds in order to prevent the alarm from being triggered accidentally. Cyclical monitoring may be used to ensure that a weather sensor is working properly. When a signal is not sent because a weather station has failed or wires have broken, the actuator for blinds will trigger an alarm after the monitoring time has elapsed.

 It is necessary to associate the respective alarm communications object with an alarm transmitter (weather station) when an alarm is activated (wind, rain or frost)! If the alarm is not acknowledged, the respective channel will switch to the alarm state when the monitoring time has elapsed. The alarm can then only be reset from within the ETS!

Action:

This parameter allows the response to an alarm to be set. The action set will be immediately executed when an alarm is triggered.

Parameter values:

- No response (default)
- Move up
- Move down

10.4 Reset/cancel action:

An action may be set for each channel to be carried out when the alarms are reset. This parameter will affect all alarms for the respective channel.

Users have four different possible settings for resetting the alarm function that the actuator for blinds will then execute for this channel.

The "No action" setting will keep the channel in the position which it assumed during the active alarm.

The "Move to previous position" setting enables the actuator for blinds to take up the position at which the channel was located before the alarm was activated. This setting will have no effect on the channel's position if the "No action" setting was chosen as the response to alarms being triggered.

The actuator for blinds may move the channel up or down when the alarm function is cancelled.

The action when the alarm is reset/cancelled always applies to the complete channel even if different settings were made for the three possible Types of alarm.

Parameter values:

- No action (default)
- Move to previous position
- Move up
- Move down

11. Behaviour in the event of bus power failure/restoration

An action defining how the actuator for blinds should respond to bus power malfunctions may be assigned using the setting for the behaviour in the event of bus power failure/restoration.

Three choices are available to users for the response to both bus power failure and the response to the restoration of power to the bus. The channel is able to assume a defined state when the bus power fails or is restored and therefore move up or down or even remain in its current state (with the "No action" setting).

Here, it must be noted that the actuator for blinds can no longer be controlled through the bus in the event of a bus power failure and so cannot be controlled in the "normal way".

Parameter values:

Response in the event of bus power failure:

- No action (default)
- Move up
- Move down
-

Response in the event of bus power being restored:

- No action (default)
- Move up
- Move down

12. Disable function

Block function activ
not activ
activ

The disable function may be activated for each channel through a separate sub item. A new sub menu, Channel X: Disable, will appear in the selection menu under the respective channel when the disable function has been activated.

The diagram below shows how the disable function's sub menu is structured:

Channel A: Block

Behavior at the object "Block"

Action at blocking (value=1) Drive to bottom

Action at unblocking (value=0) Drive to former position

Object "Block absolute position" activ

Settings for object "Block universal mode" activ

The object blocking the following functions:

Block manual control activ

Block Up/Down movement activ

Block absolute position mode not activ

Block automatic mode not activ

Block scene mode not activ

The table below presents the possible settings that can be made for the disable function's sub menu:

Parameter	Value range	Description
Action for disable (value = 1)	<ul style="list-style-type: none"> - No action (default) - Move up - Move down 	Response to the disable procedure being activated
Action for enable (value = 0)	<ul style="list-style-type: none"> - No action (default) - Move to previous position - Move up - Move down 	Response to the disable procedure being deactivated

"Disable absolute position" object	<ul style="list-style-type: none"> - Not active (default) - Active 	Activates the communications object for disabling the absolute position command
Settings for the "Universal disable" object	<ul style="list-style-type: none"> - Not active (default) - Active 	Activates the communications object and the settings for the universal disable function
The object disables the following functions:		
Disable manual operation	<ul style="list-style-type: none"> - Not active (default) - Active 	Manual operation is deactivated when the "Universal disable" object is activated
Disable up/down movement	<ul style="list-style-type: none"> - Not active (default) - Active 	The traversing objects are disabled when the "Universal disable" object is activated
Disable absolute position	<ul style="list-style-type: none"> - Not active (default) - Active 	The objects for the absolute position are disabled when the "Universal disable" object is activated
Disable automatic operation	<ul style="list-style-type: none"> - Not active (default) - Active 	Automatic operation is deactivated when the "Universal disable" object is activated
Disable scene	<ul style="list-style-type: none"> - Not active (default) - Active 	The scene functions are disabled when the "Universal disable" object is activated

The corresponding communications objects are shown when the individual disable functions are activated. The "Disable" communications object is displayed as soon as the disable function for the channel has been activated. The "Disable absolute position" and "Universal disable" objects are displayed as soon as the function has been activated in the sub menu.

The two "Behaviour for disable" and "Behaviour for enable" parameters allow functions to be assigned to the channel to activate or cancel the disabling procedure. These functions respond to the "Disable" object and affect the channel's traversing objects.

It is possible to disable the absolute position commands with the "Disable absolute position" parameter. No absolute position commands may be

assigned to the channel when the corresponding "Disable absolute position" object has been activated.

The "Universal disable" parameter allows users to configure the disable procedure and adapt it to their requirements. Five different sub items are available to this end:

- **Disable manual operation**
Disables manual operation at the device for this channel
- **Disable up/down movement**
Disables the channel's traversing commands
(with the blinds function also the adjustment of the slats)
- **Disable absolute position**
Disables the "Absolute position" object
- **Disable automatic operation**
Disables the automatic function for this channel, i.e. call up using the automatic function is disabled for this channel
- **Disable scene**
Disables the scene function for this channel, i.e. when a scene in which the disabled channel is incorporated is called up, this channel will not be called up but will remain in its current position

All disable functions are activated with a logical "1" and deactivated with a logical "0".

13. Communications objects

13.1 Overview

Communications objects are for programming; they are used for the subsequent assignment of group addresses.

The first five communications objects are global communications objects. Executing these objects may have an effect on all channels depending on how the parameters have been set for the individual channels. The following eight communications objects are reserved for the automatic function. The first four, i.e. Objects 5 to 8, belong to Automatic Block A, the following four, i.e. Objects 9 to 12, belong to Automatic Block B.

The communications objects for the individual channels follow the communications objects which may have an effect on all channels. Executing these communications objects will only affect the respective channel. Nineteen communications objects have been reserved for each channel. These communications objects are reserved consecutively even if no object is used or not all objects are used for a channel. Channel A can therefore only have communications objects from 13 to 32 and Channel B the objects from 33 to 52 and so on.

13.2 Standard settings for the communications objects

→ Input Object | ← Output object

Object 0:	→ All channels	1 Bit
Object 1:	→ All channels	1 Bit
Object 2:	→ All channels	1 Bit
Object 3:	→ All channels	1 Byte
Object 4:	→ All channels	1 Byte
Object 5:	→ Automatic A	1 Bit
Object 6:	→ Automatic A	1 Bit
Object 7:	→ Automatic A	1 Bit
Object 8:	→ Automatic A	1 Bit
Object 9:	→ Automatic A	1 Bit
Object 10:	→ Automatic B	1 Bit
Object 11:	→ Automatic B	1 Bit
Object 12:	→ Automatic B	1 Bit
Object 13:	→ Channel A	1 Bit
Object 14:	→ Channel A	1 Bit
Object 15:	→ Channel A	1 Bit
Object 16:	→ Channel A	1 Byte
Object 17:	← Channel A	1 Bit

Object 18:	→ Channel A	1 Byte
Object 19:	→ Channel A	1 Byte
Object 20:	← Channel A	1 Byte
Object 21:	← Channel A	1 Byte
Object 22:	← Channel A	1 Bit
Object 23:	→ Channel A	1 Bit
Object 24:	→ Channel A	1 Bit
Object 25:	← Channel A	1 Bit
Object 26:	← Channel A	1 Bit
Object 27:	→ Channel A	1 Bit
Object 28:	→ Channel A	1 Bit
Object 29:	→ Channel A	1 Bit
Object 30:	→ Channel A	1 Bit
Object 31:	→ Channel A	1 Bit
Object 32:	→ Channel A	1 Bit
Object +20	Next channel	1 Bit

13.3 Global communications objects

Each channel can be individually set to respond or not to respond to global communications objects. The activation of this parameter will cause the channel to respond to the triggering of global communications objects. The five objects will always be displayed even if the global function has not been activated in any channel. The actuator for blinds possesses five global objects with numbers ranging from 0 to 5. The first three objects are one-bit objects and may be used to manually move the blinds or shutters. The two following objects are one-byte objects. These allow an absolute position to be assigned to the blinds or shutters.

The image below shows the global communications objects:

Number	Name	Object Function	Description	Group Addresses	Length	C	R	W	T	U	Data Type	Priority
0	all Channels	Shutter up/down		1 bit	C	-	W	-	-	-	1 bit DPT_Up...	Low
1	all Channels	Blinds up/down...		1 bit	C	-	W	-	-	-	1 bit DPT_Up...	Low
2	all Channels	Stop		1 bit	C	-	W	-	-	-	1 bit DPT_Sw...	Low
3	all Channels	Absolute position		1 Byte	C	-	W	-	-	-	8 bit unsigne...	Low
4	all Channels	Absolute posit...		1 Byte	C	-	W	-	-	-	8 bit unsigne...	Low

1. Object 0: Blinds up/down
Type: 1 Bit
DPT1.008
Manual raising/lowering of the blinds/shutters

2. Object 1: Slat adjustment / Stop
Type: 1 Bit
DPT 1.007
Manual slat adjustment/stopping the Up/down movement

3. Object 2: stop
Type: 1 Bit
DPT 1.017
Stops actions currently being carried out

4. Object 3: Absolute position
Type: 1 Byte
DPT 5.001
Travels to an absolute position

5. Object 4: absolute Lamellenposition
Type: 1 Byte
DPT 5.001
Adjusts the slats to an absolute position

13.4 Communications objects automatic function

The two automatic blocks, A and B, each possess four communications objects for four different positions. The value that a channel is to assume for the respective position may be set individually for each channel. The objects for the individual automatic positions possess a size of one bit. The numbers 5 to 8 are reserved for Block A and the numbers 9 to 12 reserved for Block B

The following picture shows the communications objects for the two automatic blocks:

Number	Name	Object Function	Description	Group Addresses	Length	C	R	W	T	U	Data Type	Priority
5	Automatic A	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
6	Automatic A	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
7	Automatic A	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
8	Automatic A	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
9	Automatic B	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
10	Automatic B	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
11	Automatic B	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low
12	Automatic B	Automatic posit...		1 bit	C	-	W	-	-	-	1 bit DPT_Swi...	Low

1. Object 5: Automatic A
Type: 1 Bit
DPT 1.017
A 1-telegram travels to Automatic Position 1 set by Automatic A.

2. Object 6: Automatic A
Type: 1 Bit
DPT 1.007
A 1-telegram travels to Automatic Position 2 set by Automatic A.

3. Object 7: Automatic A
Type: 1 Bit
DPT 1.017
A 1-telegram travels to Automatic Position 3 set by Automatic A.

4. Object 8: Automatic A
Type: 1 Bit
DPT 1.017
A 1-telegram travels to Automatic Position 4 set by Automatic A.

5. Object 9: Automatic B
Type: 1 Bit
DPT 1.017
A 1-telegram travels to Automatic Position 1 set by Automatic B.

6. Object 10: Automatic B
Type: 1 Bit
DPT 1.007

Application program description for KNX-actors for blinds



A 1-telegram travels to Automatic Position 2 set by Automatic B.

7. Object 11: **Automatic B**
Type: 1 Bit DPT 1.017

A 1-telegram travels to Automatic Position 3 set by Automatic B.

8. Object 12: **Automatic B**
Type: 1 Bit DPT 1.017

A 1-telegram travels to Automatic Position 4 set by Automatic B.

13.5 Communications objects per channel

Nineteen numbers are reserved for the communications objects for each channel. The numbers follow on from the global objects and the automatic objects and may therefore only start with the numbers from 13. Channel A therefore has been assigned the numbers from 13 to 32, Channel B from 33 and so on. The numbers for the channels will also be reserved even when not all numbers are used for each channel or a channel has been completely deactivated.

The following picture shows the communications objects for a channel, the channel here has been selected for blinds.:

Number	Name	Object Function	Description	Group Addresses	Len...	C	R	W	T	U	Data Type	Priority
13	Channel A	Shutter up/down			1 bit	C	-	W	-	-	1 bit DPT_Up...	Low
15	Channel A	Stop			1 bit	C	-	W	-	-	1 bit DPT_Swi...	Low
16	Channel A	Scene			1 Byte	C	-	W	-	-		Low
17	Channel A	Status actual dir...			1 bit	C	R	-	T	-	1 bit DPT_Up...	Low
18	Channel A	Absolute position			1 Byte	C	-	W	-	-	8 bit unsigne...	Low
20	Channel A	Status actual po...			1 Byte	C	R	-	T	-	8 bit unsigne...	Low
22	Channel A	Act. position val...			1 bit	C	R	-	T	-	1 bit DPT_Boo...	Low
23	Channel A	Start driving to ...			1 bit	C	-	W	-	-	1 bit DPT_Swi...	Low
24	Channel A	Drive to limitat...			1 bit	C	-	W	-	-	1 bit DPT_Swi...	Low
25	Channel A	State upper Posi...			1 bit	C	R	-	T	-		Low
26	Channel A	State lower Posi...			1 bit	C	R	-	T	-		Low
32	Channel A	Block			1 bit	C	-	W	-	-	1 bit DPT_Ena...	Low

1. Object 13: **Blinds Up/Down
(only for blinds)**
Type: 1 Bit DPT 1.007
Manual movement of the blinds

2. Object 13: **Shutters Up/Down
(only for shutters)**
Type: 1 Bit DPT 1.007
Manual movement of the shutters

3. Object 14: **Slat adjustment/
stop**
Type: 1 Bit DPT 1.007
Manual slat adjustment (only for blinds)

4. Object 15: **Stop**
Type: 1 Bit DPT 1.017
Stops the movement of the shutters (only for shutters)

5. Object 16: **Scene**
Type: 1 Bit DPT 18.001
Scene call-up

6. Object 17: **Cur. direction**
Type: 1 Bit DPT 1.008
Specifies the current direction

7. Object 18: **Absolute Position**
Type: 1 Bit DPT 5.001
Moves to an absolute position

8. Object 19: **Absolute
slat position**
Type: 1 Bit DPT 5.001
Moves to an absolute slat position

9. Object 20: **Current position**
Type: 1 Bit DPT 5.001
Moves to an absolute slat position

10. Object 21: **Current
slat position**
Type: 1 Bit DPT 5.001
States the current slat position

11. Object 22: **Cur. position valid**
Type: 1 Bit DPT 1.002

12. Object 23: **Start reference**
Type: 1 Bit DPT 1.008
Starts the reference movement

13. Object 24: **Move to limit**
Type: 1 Bit DPT 1.008
Moves to the set limit

14. Object 25: **Top position status**
Type: 1 Bit DPT 1.001
Reports that the top position has been reached

15. Object 26: **Bottom position status**
Type: 1 Bit DPT 1.001
Reports that the bottom position has been reached

16. Object 27: **Absolute position
disable**
Type: 1 Bit DPT 1.003
Disables absolute operation

17. Object 28: **Universal disable**
Type: 1 Bit DPT 1.003
Disables depending on the parameters set

18. Object 29: **Windalarm**
Type: 1 Bit DPT 1.005
schaltet den Windalarm ein

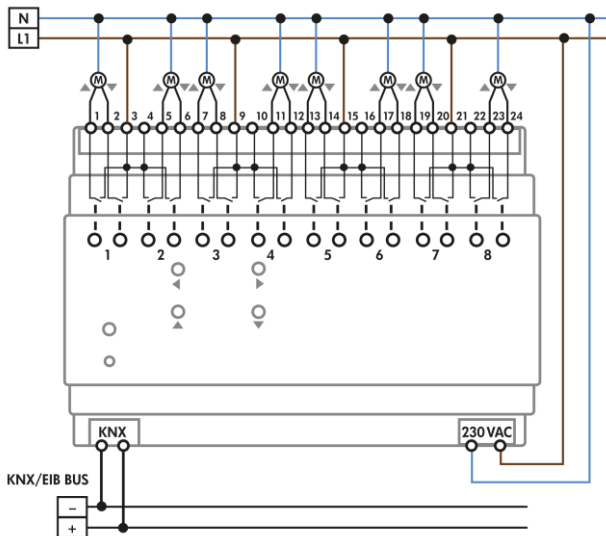
19. Object 30: **Regenalarm**
Type: 1 Bit DPT 1.005
schaltet den Regenalarm ein

20. Object 31: **Frostalarm**
Type: 1 Bit DPT 1.005
schaltet den Frostalarm ein

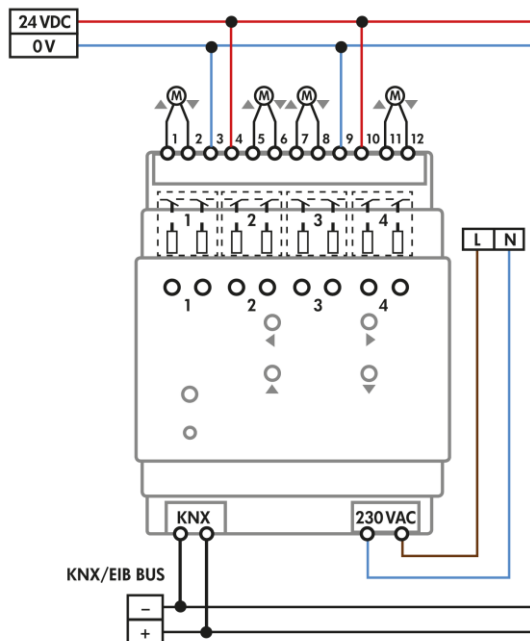
21. Object 32: **Sperren**
Type: 1 Bit DPT 1.003
sperrt den Kanal

14. Technische Daten

KNX SBA-8C-230V



KNX SBA-4C-24V



Configuration	KNX-SBA-4C-230V	KNX-SBA-8C-230V	KNX-SBA-4C-24V
Number of outputs	4	8	4
Nominal voltage			
Supply voltage	230VAC / 50Hz	230VAC / 50Hz	230VAC
Outputs	230VAC/ 24VDC	230VAC/ 24VDC	24VDC
Power consumption Type.	< 0,5W	< 0,5W	< 0,5W
Maximum switching power *			
Ohmic load	10A, $\cos\phi=1$	10A, $\cos\phi=1$	8A, $\cos\phi=1$
Capacitive load	-	-	-
Motors for shutters **	600W	600W	200W
Max. Cable cross-section			
Screw terminals	2,5mm ²	2,5mm ²	2,5mm ²
KNX bus terminal	0,8mm	0,8mm	0,8mm
Ambient temperature	0 to +45°C	0 to +45°C	0 to +45°C
Degree of protection	IP20	IP20	IP20
REG dimensions	4TE	8TE	4TE
Dimensions UP/AP (W x H x D)	72 x 60 x 86mm	144 x 60 x 86mm	72 x 60 x 86mm

****No rotary current motors**

Note: On the KNX-SBA actuators for blinds, two blinds/shutters share a feed line each.