

25 A4 Venetian blind 981101

Use of the application program

Product family: Shutter
 Product type: Switch
 Manufacturer: Siemens

Name: Venetian blind actuator N 522/03
 Order no.: SWG1 522-1AB03

Functional description

Application

The Venetian blind actuator N 522/03 is a DIN rail mounted device with N-system dimensions and a width of 6 module units. It can control four AC 230V-drives for blinds, shutters, awnings, windows or doors independently of one another. Drive mechanisms (motors) with electromechanical limit switches or with integrated electronics for limit position disconnection may be connected to the four outputs. The parallel operation of several drives with electromechanical limit switches and a mixed operation of the above-mentioned drive types on one output are not permissible, since the opening of the drive's limit switches is queried by the actuator and used to synchronize the movement times to the limit positions. With drives with integrated electronic limit switches, there is no automatic adjustment of the movement times. These drives are controlled exclusively by using the movement times from one final position to the other. In this case the movement times of the motor therefore have to be measured as precisely as possible and set in the application program. If a relay for the group control of several drives is connected to an output of the N522/03, it should be controlled like a drive with integrated electronic limit switches.

Bus mode / direct mode

The actuator electronics are supplied via an integrated power supply unit for AC 230V, independent of the KNX bus voltage. Moving the sun blind or adjusting the slats is therefore possible in direct mode even if no bus voltage is applied, the N 522/03 has not yet been put into operation with the ETS (Engineering Tool Software) or communication via the bus has been interrupted. If the application program has been unloaded, the actuator is always in direct mode and the direct mode light-emitting diode (LED) will always be lit.

With the N 522/03, "Direct mode" is switched on by means of a pushbutton at bottom left on the upper side of the actuator. When this pushbutton is pushed for the first time, the yellow LED is lit to indicate the direct mode. Direct mode can be ended at any time by pressing the "Direct mode" pushbutton again, or it will end auto-

matically at the end of the configured switch time without any pushbutton being pressed during this time. The yellow LED for displaying direct mode then goes out and the actuator is in "Bus mode" again. For operation in direct mode independent of the bus, there are two pushbuttons per outlet on the upper side of the actuator. Direct operation via these pushbuttons is carried out via long and short push button actions in the same way as via KNX push buttons.

Adjustment by commands as % values

The Venetian blind actuator N 522/03 can be used together only with the application program 25 A4 Venetian blind 981101, which can be configured and loaded with the Engineering Tool Software (ETS) from version ETS2 V1.3.

The program is structured so that, in the supplied state, there is sufficient basic functionality in combination with 12 basic communication objects for a simple application in standard mode available: the "Status direct mode" object, an "Alarm" object that influences all channels, a "Movement blockade" object that also influences all channels, a "Sun blinds, central up/down" object that influences all channels, and two 1-bit command objects per channel which make it possible to move a blind to one of its limit positions and to stop the movement or to stepwise adjust the slats.

Apart from the direct movement of the sun / glare protection to one of the two limit positions, there are many further functions available, as needed. Both blinds and the slats can be moved into intermediate positions via commands as % values. The precision with which the desired position is captured by the sun blind or the slats depends on the motor used and the gears and not on the sun blind actuator.

If desired, after an uninterrupted lowering of a blind from the upper to the lower limit position and the activation of the limit switch, the slats can subsequently be turned into a configured intermediate position to allow more daylight into the room.

Both the current position of the blind as well as that of the slats can be transmitted as percentage values in the range of 0 ...100% (0% = blind or slats fully opened, 100% = blind or slats fully closed) upon request or automatically after reaching a new position, as needed, via two status objects per channel.

Functions and objects

It can be selected via the ETS parameter window "Functions, Objects" whether each channel should be configured individually or whether configuration should be carried out identically for all channels together. Further-

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more, the following functions and objects can be added, as needed, per device or per channel:

- an 8-bit scene control integrated into the actuator,
- two 1-bit objects for saving and recalling any two desired sun blind positions 1 and 2,
- one "Alarm" object per channel,
- one "Movement blockade" object per channel,
- one "Sun blind, central up/down" object per channel.

In addition to the setting of the type of sun protection and of the limit switching for all channels or the respective channel, further objects can be added via the parameter window "Channel A-D" resp. "Channel x":

- the objects for automatic mode,
- two 8-bit command objects in standard mode (blind and slats adjustment in %),
- two 8-bit status objects (blind and slats adjustment in %) and optionally
- one "Sunshine on/off" object per device or channel that is used with the use of a blind control module to lock/release the blind and slats positioning in automatic mode after optionally the blind was moved to the upper or lower limit position.

Standard mode or Automatic / Manual mode

On the parameter window "Channel A-D" or "Channel x" it can be set via the parameter "Add objects: Automatic / Manual mode" whether a distinction is to be made between automatic and manual mode or whether there is only one operating mode (standard mode).

With standard mode, the two 1-bit objects for controlling a Venetian blind and its slats are always available per channel. These can be supplemented by further command and status objects with positioning data in percentages, if required.

If a distinction is made between automatic mode and manual mode, via the "Sun blinds, central up/down" object acting on all channels (or the "Channel x, sun blind, central up/down" object acting only on the respective channel), all channels (or the respectively addressed channel) of the actuator are (is) switched first to automatic mode and then the connected Venetian blinds (or the connected Venetian blind) are (is) moved to the upper or lower limit position. Use of this central command guarantees that the sun protection of rooms which are switched by their user to manual mode and which have not been switched back to automatic mode before the user had left the room or the premises, can also be centrally raised in the evening and can be centrally lowered when the sun shines.

In automatic mode, per channel one object is available for switching the channel to manual or automatic mode, two objects for positioning Venetian blinds and their slats via percentage positioning commands in automatic

mode and two 1-bit objects for controlling blind and slats in manual mode. Further objects can be added as desired.

During automatic mode, manually initiated movement of a Venetian blind or adjustment of its slats via the two 1-bit objects for manual mode (e.g. via a Venetian blind pushbutton in the room) always effects automatic switching from automatic to manual mode for the channel concerned. During manual mode, all automatic mode commands for this channel are no longer executed (but are saved for execution after renewed activation of automatic mode). This guarantees that a room user can always bring his sun / glare protection into the position he desires, and this position can only be changed via super-ordinate automation through a weather station when the channel has been switched back to automatic mode first.

Sun tracking control of the slats

A "Sunshine" object can be added per channel only when a distinction is made between automatic mode and manual mode. These objects must be linked to the corresponding objects of a weather station or a sun blind control module, via which it is reported whether the sun is shining on the relevant building front or not. In those channels which are switched to automatic mode, then the adjustment of Venetian blind and slats via automatic mode commands is blocked (if the sun is not shining) or released (when the sun is shining) and the Venetian blind is previously moved, if necessary, to the upper or lower limit position via this object.

This ensures that the blinds are lowered only when the sun is shining and that the slats can be positioned according to the sun so that they are always vertical to the direct rays of the sun. As much daylight as possible can thus be used free of glare, the amount of artificial light used in workplace lighting reduced and energy costs cut.

8-bit scene control

With the 8-bit scene control saving or recalling a scene is triggered by a telegram with an 8-bit object. The most significant bit 7 here indicates whether the scene should be saved or recalled. Bit 6 is currently without significance. Bit 0 to 5 contain (binary-coded) the number of the desired scene as a decimal number in the range 1 through 64 (whereby scene number 1 corresponds to the binary number 0, scene number 2 corresponds to binary number 1, etc.) Each actuator channel can be integrated into up to 8 scenes. When scenes are saved and recalled, the channels in question are automatically switched to manual mode. If a scene is recalled before the blind and slats positions were saved for this scene, or if a scene is saved with unknown positions (during a running blind or

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slats adjustment or after a restart, for example), the command is rejected and the channel in question is not switched to manual mode. If the actuator is in direct mode or if the movement blockade or the alarm is active, a command to recall a scene is also rejected and the channel in question is not switched to manual mode.

However, the restoration of a scene is carried out even with adjustment running or unknown settings. In the latter case, the limit position closest to the target position is first approached and from there, the target position.

Position 1 / 2 save / recall

Through this function and the associated objects a room user can save two preferred intermediate positions of a Venetian blind and its slats with a long press on a bus pushbutton with the "1-bit scene save / recall" function linked to these objects, and automatically recall them with a short press.

Behavior on bus / mains voltage failure / recovery

In the event of a bus voltage failure, a Venetian blind movement or a slats adjustment that has been started will be completed. The positions of blind and slats will be stored. If the blind and slats positions are subsequently changed in direct operation, the new positions will be stored.

In the event of a mains voltage failure, a Venetian blind movement or slats adjustment that has started will be ended immediately. The current object values, modes and positions will be saved in a non-volatile memory.

The behaviour at bus / mains voltage recovery can be set per channel. Hereby the following is to be noted:

- If a channel is in automatic mode, the action configured for bus / mains voltage recovery will not be executed. Instead the values last received in automatic mode for blind and slats positioning will be executed.
- If a channel is in manual mode, the action configured for bus / mains voltage recovery will be executed. If "no action" is set, adjustments running will not be stopped.
- If the alarm object is set at logical "1" the action configured for bus / mains voltage recovery will not be executed, but the action that is configured for an alarm. If the behaviour in the event of alarm is set at "no action" adjustments running will not be stopped.
- If the movement blockade object is set at logical "1" or if the actuator is in direct mode, the action configured for bus / mains voltage recovery will not be executed. Adjustments running will not be stopped.

Situation after ETS Download

Through an ETS download all the blind and slats adjustments that are running are stopped. The object values for status direct mode, movement blockade, alarm and automatic mode are re-set to logical "0" and all blind and slats positions are marked "unknown." Given positions, last received in automatic mode, are retained. Scenes previously saved are likewise retained.

If a position or scene command is subsequently received with a channel with position values marked "unknown," for position synchronization the limit position closest to the target position is first approached and from there, the target position.

Communication Objects**Alarm**

Via the "Alarm" object, in the event of a wind or rain alarm, all Venetian blinds (or only those of the channel in question) are moved into the configured safety position and movement into another position is blocked while the alarm is still present.

With Alarm = On manual mode commands are ignored and with Alarm = Off they are not executed. With Alarm = On automatic mode commands are saved and executed at Alarm = Off.

Movement blockade

The "Movement blockade" object has a higher priority than the "Alarm" object, i.e. if the blockade object is set to logical "1" then the sun blind can not be moved either via an alarm object changing to a logical "1". If the movement blockade is set, movements started will be completed. However, if an alarm signal is still present after the blockade has been ended, then the channel concerned moves automatically into the configured safety position. In other respects the behaviour of the "Movement blockade" object corresponds to that of the "Alarm" object.

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no.	Object name	Function	Type	C	R	W	T	U
01.01.001	25 A4 Venetian blind 981101	5WG1 522-1AB03	Siemens					
0	Status direct mode	On / Off	1 Bit	✓	✓	✓	✓	
2	Alarm	On / Off	1 Bit					✓
3	Movement blockade	On / Off	1 Bit	✓				
4	Sun blinds, central	Up / Down	1 Bit	✓				
13	Channel A, sun blind, manual mode	Up / Down	1 Bit	✓				
14	Channel A, stop / slats, manual mode	Open / Close	1 Bit	✓				
27	Channel B, sun blind, manual mode	Up / Down	1 Bit	✓				
28	Channel B, stop / slats, manual mode	Open / Close	1 Bit	✓				
41	Channel C, sun blind, manual mode	Up / Down	1 Bit	✓				
42	Channel C, stop / slats, manual mode	Open / Close	1 Bit	✓				
55	Channel D, sun blind, manual mode	Up / Down	1 Bit	✓				
56	Channel D, stop / slats, manual mode	Open / Close	1 Bit	✓				

Diagram 1 above shows, in the supplied state, the minimum possible number of communication objects that are visible with standard mode, which is 12.

no.	Object name	Function	Type	C	R	W	T	U
01.01.001	25 A4 Venetian blind 981101	5WG1 522-1AB03	Siemens					
0	Status direct mode	On / Off	1 Bit	✓	✓	✓	✓	
1	8-bit scene, manual mode	Recall / Save	1 Byte	✓				✓
5	Channel A, alarm	On / Off	1 Bit	✓				
6	Channel A, movement blockade	On / Off	1 Bit	✓				
7	Channel A, sun blind, central	Up / Down	1 Bit	✓				
11	Channel A, sun blind, manual mode	Position 0-100%	1 Byte	✓				
12	Channel A, slats, manual mode	Position 0-100%	1 Byte	✓				
13	Channel A, sun blind, manual mode	Up / Down	1 Bit	✓				
14	Channel A, stop / slats, manual mode	Open / Close	1 Bit	✓				
15	Channel A, position 1 / 2, manual mode	Recall	1 Bit	✓				
16	Channel A, position 1 / 2, manual mode	Save	1 Bit	✓				
17	Channel A, status sun blind	Position 0-100%	1 Byte	✓	✓	✓	✓	
18	Channel A, status slats	Position 0-100%	1 Byte	✓	✓	✓	✓	
19	Channel B, alarm	On / Off	1 Bit	✓				
20	Channel B, movement blockade	On / Off	1 Bit	✓				
21	Channel B, sun blind, central	Up / Down	1 Bit	✓				
25	Channel B, sun blind, manual mode	Position 0-100%	1 Byte	✓				
26	Channel B, slats, manual mode	Position 0-100%	1 Byte	✓				
27	Channel B, sun blind, manual mode	Up / Down	1 Bit	✓				
28	Channel B, stop / slats, manual mode	Open / Close	1 Bit	✓				
29	Channel B, position 1 / 2, manual mode	Recall	1 Bit	✓				
30	Channel B, position 1 / 2, manual mode	Save	1 Bit	✓				
31	Channel B, status sun blind	Position 0-100%	1 Byte	✓	✓	✓	✓	
32	Channel B, status slats	Position 0-100%	1 Byte	✓	✓	✓	✓	
33	Channel C, alarm	On / Off	1 Bit	✓				
34	Channel C, movement blockade	On / Off	1 Bit	✓				
35	Channel C, sun blind, central	Up / Down	1 Bit	✓				
39	Channel C, sun blind, manual mode	Position 0-100%	1 Byte	✓				
40	Channel C, slats, manual mode	Position 0-100%	1 Byte	✓				
41	Channel C, sun blind, manual mode	Up / Down	1 Bit	✓				
42	Channel C, stop / slats, manual mode	Open / Close	1 Bit	✓				
43	Channel C, position 1 / 2, manual mode	Recall	1 Bit	✓				
44	Channel C, position 1 / 2, manual mode	Save	1 Bit	✓				
45	Channel C, status sun blind	Position 0-100%	1 Byte	✓	✓	✓	✓	
46	Channel C, status slats	Position 0-100%	1 Byte	✓	✓	✓	✓	
47	Channel D, alarm	On / Off	1 Bit	✓				
48	Channel D, movement blockade	On / Off	1 Bit	✓				
49	Channel D, sun blind, central	Up / Down	1 Bit	✓				
53	Channel D, sun blind, manual mode	Position 0-100%	1 Byte	✓				
54	Channel D, slats, manual mode	Position 0-100%	1 Byte	✓				
55	Channel D, sun blind, manual mode	Up / Down	1 Bit	✓				
56	Channel D, stop / slats, manual mode	Open / Close	1 Bit	✓				
57	Channel D, position 1 / 2, manual mode	Recall	1 Bit	✓				
58	Channel D, position 1 / 2, manual mode	Save	1 Bit	✓				
59	Channel D, status sun blind	Position 0-100%	1 Byte	✓	✓	✓	✓	
60	Channel D, status slats	Position 0-100%	1 Byte	✓	✓	✓	✓	

Diagram 2 above shows the maximum possible number of communication objects with standard mode, which is 46. These are visible only if all the additionally possible functions and objects have been added when configuring the actuator.

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no.	Object name	Function	Type	C	R	W	T	U
01.01.001	25 A4 Venetian blind 981101	SWG1 522-1AB03	Siemens					
0	Status direct mode	On / Off	1 Bit	✓	✓	✓		
2	Alarm	On / Off	1 Bit	✓				
3	Movement blockade	On / Off	1 Bit	✓				
4	Sun blinds, central	Up / Down	1 Bit	✓				
9	Channel A, automatic mode	On / Off	1 Bit	✓				
10	Channel A, status automatic mode	On / Off	1 Bit	✓	✓	✓		
11	Channel A, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
12	Channel A, slats, automatic mode	Position 0-100%	1 Byte	✓				
13	Channel A, sun blind, manual mode	Up / Down	1 Bit	✓				
14	Channel A, stop / slats, manual mode	Open / Close	1 Bit	✓				
23	Channel B, automatic mode	On / Off	1 Bit	✓				
24	Channel B, status automatic mode	On / Off	1 Bit	✓	✓	✓		
25	Channel B, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
26	Channel B, slats, automatic mode	Position 0-100%	1 Byte	✓				
27	Channel B, sun blind, manual mode	Up / Down	1 Bit	✓				
28	Channel B, stop / slats, manual mode	Open / Close	1 Bit	✓				
37	Channel C, automatic mode	On / Off	1 Bit	✓				
38	Channel C, status automatic mode	On / Off	1 Bit	✓	✓	✓		
39	Channel C, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
40	Channel C, slats, automatic mode	Position 0-100%	1 Byte	✓				
41	Channel C, sun blind, manual mode	Up / Down	1 Bit	✓				
42	Channel C, stop / slats, manual mode	Open / Close	1 Bit	✓				
51	Channel D, automatic mode	On / Off	1 Bit	✓				
52	Channel D, status automatic mode	On / Off	1 Bit	✓	✓	✓		
53	Channel D, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
54	Channel D, slats, automatic mode	Position 0-100%	1 Byte	✓				
55	Channel D, sun blind, manual mode	Up / Down	1 Bit	✓				
56	Channel D, stop / slats, manual mode	Open / Close	1 Bit	✓				

Diagram 3 above shows the minimum possible number of communication objects, which is 28, when a distinction is made between automatic and manual mode.

Diagram 4 on the right shows the maximum possible number of communication objects, which is 58, distinguishing between automatic and manual mode. These are visible only if all the additionally possible functions and objects have been added when configuring the actuator.

Maximum number of group addresses: 114
Maximum number of associations: 150

no.	Object name	Function	Type	C	R	W	T	U
01.01.001	25 A4 Venetian blind 981101	SWG1 522-1AB03	Siemens					
0	Status direct mode	On / Off	1 Bit	✓	✓	✓		
1	8-bit scene, manual mode	Recall / Save	1 Byte	✓				
5	Channel A, alarm	On / Off	1 Bit	✓				
6	Channel A, movement blockade	On / Off	1 Bit	✓				
7	Channel A, sun blind, central	Up / Down	1 Bit	✓				
8	Channel A, Sunshine	On / Off	1 Bit	✓				
9	Channel A, automatic mode	On / Off	1 Bit	✓				
10	Channel A, status automatic mode	On / Off	1 Bit	✓	✓	✓		
11	Channel A, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
12	Channel A, slats, automatic mode	Position 0-100%	1 Byte	✓				
13	Channel A, sun blind, manual mode	Up / Down	1 Bit	✓				
14	Channel A, stop / slats, manual mode	Open / Close	1 Bit	✓				
15	Channel A, position 1 / 2, manual mode	Recall	1 Bit	✓				
16	Channel A, position 1 / 2, manual mode	Save	1 Bit	✓				
17	Channel A, status sun blind	Position 0-100%	1 Byte	✓	✓	✓		
18	Channel A, status slats	Position 0-100%	1 Byte	✓	✓	✓		
19	Channel B, alarm	On / Off	1 Bit	✓				
20	Channel B, movement blockade	On / Off	1 Bit	✓				
21	Channel B, sun blind, central	Up / Down	1 Bit	✓				
22	Channel B, Sunshine	On / Off	1 Bit	✓				
23	Channel B, automatic mode	On / Off	1 Bit	✓				
24	Channel B, status automatic mode	On / Off	1 Bit	✓	✓	✓		
25	Channel B, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
26	Channel B, slats, automatic mode	Position 0-100%	1 Byte	✓				
27	Channel B, sun blind, manual mode	Up / Down	1 Bit	✓				
28	Channel B, stop / slats, manual mode	Open / Close	1 Bit	✓				
29	Channel B, position 1 / 2, manual mode	Recall	1 Bit	✓				
30	Channel B, position 1 / 2, manual mode	Save	1 Bit	✓				
31	Channel B, status sun blind	Position 0-100%	1 Byte	✓	✓	✓		
32	Channel B, status slats	Position 0-100%	1 Byte	✓	✓	✓		
33	Channel C, alarm	On / Off	1 Bit	✓				
34	Channel C, movement blockade	On / Off	1 Bit	✓				
35	Channel C, sun blind, central	Up / Down	1 Bit	✓				
36	Channel C, Sunshine	On / Off	1 Bit	✓				
37	Channel C, automatic mode	On / Off	1 Bit	✓				
38	Channel C, status automatic mode	On / Off	1 Bit	✓	✓	✓		
39	Channel C, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
40	Channel C, slats, automatic mode	Position 0-100%	1 Byte	✓				
41	Channel C, sun blind, manual mode	Up / Down	1 Bit	✓				
42	Channel C, stop / slats, manual mode	Open / Close	1 Bit	✓				
43	Channel C, position 1 / 2, manual mode	Recall	1 Bit	✓				
44	Channel C, position 1 / 2, manual mode	Save	1 Bit	✓				
45	Channel C, status sun blind	Position 0-100%	1 Byte	✓	✓	✓		
46	Channel C, status slats	Position 0-100%	1 Byte	✓	✓	✓		
47	Channel D, alarm	On / Off	1 Bit	✓				
48	Channel D, movement blockade	On / Off	1 Bit	✓				
49	Channel D, sun blind, central	Up / Down	1 Bit	✓				
50	Channel D, Sunshine	On / Off	1 Bit	✓				
51	Channel D, automatic mode	On / Off	1 Bit	✓				
52	Channel D, status automatic mode	On / Off	1 Bit	✓	✓	✓		
53	Channel D, sun blind, automatic mode	Position 0-100%	1 Byte	✓				
54	Channel D, slats, automatic mode	Position 0-100%	1 Byte	✓				
55	Channel D, sun blind, manual mode	Up / Down	1 Bit	✓				
56	Channel D, stop / slats, manual mode	Open / Close	1 Bit	✓				
57	Channel D, position 1 / 2, manual mode	Recall	1 Bit	✓				
58	Channel D, position 1 / 2, manual mode	Save	1 Bit	✓				
59	Channel D, status sun blind	Position 0-100%	1 Byte	✓	✓	✓		
60	Channel D, status slats	Position 0-100%	1 Byte	✓	✓	✓		

Application program description

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Commentaries on the communication objects

Obj	Object name	Function	Type	Flag
0	Status direct mode	On / Off	1 bit	CRT
<p>A report is sent via this object that the actuator has been switched from bus mode to direct mode via the "Direct mode" pushbutton on the top of the actuator (Direct mode = On), or, respectively, that a switch has been made back to bus mode from direct mode (Direct mode = Off). When direct mode is switched on (the associated yellow LED on the top of the actuator lights up), direct activation of the actuator channels is enabled via the corresponding pushbuttons on the top of the actuator. During direct mode, an actuator channel can be controlled via a short and long press of the associated pushbuttons as with a bus pushbutton. As the direct mode is fully isolated from the bus communication, the presence of an alarm or the activation of the moving blockade against the raising or lowering of the blind is not taken into account.</p> <p>Scene, sun blind and slats commands received during direct mode, as well as commands for switching the automatic mode on or off, are ignored, not stored and even not executed at direct mode = Off, i.e. after switching back to bus mode. If direct mode is switched off the yellow LED on the top of the actuator is also switched off.</p> <p>The status direct mode is transmitted automatically after bus or mains voltage recovery.</p>				
1	8-bit scene, manual mode	Recall / Save	1 byte	CW
<p>Via this object, the 8-bit scene with the number x is recalled (restored) or saved. Bit 0...5 contain the scene number. If bit 7 is set to logical "1", the scene is saved, if bit 7 is set to logical "0", it is recalled. Bit 6 is currently without significance and must be set to logical "0".</p> <p>When automatic mode is activated (automatic mode = On) saving or recalling (restoring) a scene automatically leads to a switchover to manual mode (automatic mode = Off).</p> <p>Successful saving of a position is not possible until the movement time of the sun blind and the adjustment time of the slats have been entered, the status objects for blind and slats adjustment have been synchronized by reference movement to a limit position and the sun blind is not in motion.</p>				

Obj	Object name	Function	Type	Flag
2 (or 5, 19, 33, 47)	Alarm (or Channel x, alarm)	On / Off	1 bit	CW
<p>This object can be linked, e.g., with an alarm signal from a wind, rain or ice detector, which sends a logical "0" in the idle state (cyclically) and a logical "1" in the event of an alarm. Via the parameter "Behaviour on alarm", it can be set for all the channels together or individually per channel whether and how a channel should react to an alarm ("no action", e.g. in the case of an interior sun blind) or whether the actuator should e.g. move an outer Venetian blind connected to this channel into the upper limit position in the event of a wind alarm and block movement out of this position while the wind alarm is still present. In the case of alarm = On, manual mode commands are ignored and not stored. In the case of alarm = On, automatic commands are stored and executed at alarm = Off.</p> <p>The blind likewise moves to the configured safety position if a time has been assigned to the parameter "Monitoring time for alarm" and no telegrams have been received during the set time interval.</p> <p>Caution: If the actuator is switched to direct mode, the movement of the sun blind is possible in spite of an alarm being received via the bus.</p>				
3 (or 6, 20, 34, 48)	Movement blockade	On / Off	1 bit	CW
<p>If a logical "1" is received via this object, then movement of the sun protection via bus telegrams is blocked until a logical "0" is received via this object. A started movement will be completed.</p> <p>This object can be used, e.g.,</p> <ul style="list-style-type: none"> a) while the outer Venetian blinds are being cleaned to prevent the blinds from being raised so that the cleaning staff are not endangered, b) or when the window is open, to prevent an internal blind from being lowered and damaged as a result, c) or to prevent a roller shutter from being lowered when the patio door is open and thus locking out the occupants. <p>Movement blockade = On has a higher priority than Alarm = On and cannot be overridden by an alarm.</p> <p>In the case of blockade = On, manual mode commands will be ignored and in the case of blockade = Off they are not repeated. In the event of blockade = On, automatic commands are stored, and at blockade = Off, they are executed.</p> <p>Caution: If the actuator is switched to direct mode, the movement of the sun protection is possible even if the movement blockade of the sun protection is activated via the bus.</p>				

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Obj	Object name	Function	Type	Flag
4 (or 7, 21, 35, 49)	Sun blinds, central	Up / Down	1 bit	CW
<p>If a telegram is received at this object, then all the actuator channels (or the respectively concerned channel) are (is) first switched over to "automatic mode" and then the sun blind is moved into the corresponding limit position. If a logical "0" is received, then the sun protection is raised (opened); if a logical "1" is received, then it is lowered (closed). If sun blinds travel uninterrupted from the upper limit position into the lower limit position via this object, the slats positions stipulated via the "After sun blind Down: slats position in % (0-100)" parameter will be approached automatically.</p>				
8, 22, 36, 50	Channel A(8), B(22), C(36), D(50), Sunshine	On/Off	1 bit	CW
<p>This object is available only with differentiation between automatic mode and manual mode, and in that case, once per channel. When a sun blind control module is used, this serves to release/lock the blind and slats positioning and, optionally, to additionally move the blind into the upper or lower limit position. Therefore it has to be linked to the object of the same name of the sun blind control module. If a telegram is received by this object, the sun blind is moved only at those channels at which the automatic mode is switched on and subsequently the positioning of blind and slats via percentage commands is released or locked.</p> <p>If in automatic mode a logical "0" is received (Sunshine = Off), the sun blind is optionally moved into the upper limit position (opened) and the positioning of blind and slats via percentage commands locked. If in automatic mode a logical "1" is received (Sunshine = On) the sun blind is optionally moved to the lower limit position (closed) and the positioning of blind and slats via percentage commands is released. If a blind is moved without interruption from the upper to the lower limit position, the slats are then turned into the position set via the "After sun blind Down: slats position in % (0-100)" parameter. If percentage commands for blind and slats adjustment are received during the movement into the lower limit position, they are carried out immediately and the movement to the lower limit position is not executed first.</p> <p>If automatic mode is switched off, but Sun = On, the percentage commands for blind and slats position transmitted from a weather station or a sun blind control module are stored but not executed.</p>				
9, 23, 37, 51	Channel A(9), B(23), C(37), D(51), Automatic mode	On/Off	1 bit	CW
<p>Using these objects, the associated channels can be switched over between "automatic mode" and "manual mode" (automatic mode = Off).</p>				

Obj	Object name	Function	Type	Flag						
10, 24, 38, 52	Channel A(10), B(24), C(38), D(52), Status automatic mode	On/Off	1 bit	CRT						
<p>Using these objects, the status automatic mode can be queried per channel and, dependent on the configuration, is additionally transmitted automatically at a status change and at bus / mains voltage recovery. Automatic mode is maintained in the background with activated direct mode, movement blockade and alarm, and the status object is set accordingly, even if another mode overrides the automatic mode.</p>										
11, 25, 39, 53	Channel A(11), B(25), C(39), D(53), sun blind, manual mode (automatic mode)	Position 1-100%	1 byte	CW						
<p>Using this object, the sun blind of the corresponding channel can be moved into a given position. If the actuator knows only one mode (standard mode), the object name contains the term "manual mode." If the actuator distinguishes between automatic mode and manual mode, the object name contains the term "automatic mode." In this case a positioning command is executed only if automatic mode is switched on at the actuated channel. However, if the channel is in "manual mode," the positioning command will not be executed, but stored and executed only after switchover to automatic mode.</p> <p>Using this object, sun blind positions can be transmitted in a value range of 0 to 255. The following benchmark figure assignments apply in the process:</p> <table> <tr> <td>0 or 1</td> <td>(=0%)</td> <td>Venetian blind fully up</td> </tr> <tr> <td>255</td> <td>(=100%)</td> <td>Venetian blind fully down</td> </tr> </table> <p>As soon as the sun blind position stipulated via the object has been reached, the slats position which was last received via the "Slats, automatic mode, position 0-100%" object belonging to the respective channel is automatically recalled. A receipt of a "Central up/down" command is to be equated with receipt of a "Sun blind, automatic mode, position 0-100%" or "Slats, automatic mode, position 0-100%" object.</p> <p>If the sun protection is moved into an intermediate position via this object for the first time after an ETS download, then a limit switch is approached beforehand in order to synchronise the position. In addition, the slats then remain fully open (horizontal slat position) until a positioning command to adjust the slats is received.</p> <p>If the upper limit position is to be approached with drives with integrated electronics for limit switching, the configured movement time is automatically extended by approx. 10%, so that reaching the upper limit position is guaranteed by activating the respective limit switch. If the lower limit position is to be approached, the configured movement time is extended by approx. 5%.</p> <p>Once the sun blind positioning has been completed or the limit position has been reached, the object value of all status objects (sun blind and slats position) is updated and, if configured correspondingly, transmitted over the bus.</p>					0 or 1	(=0%)	Venetian blind fully up	255	(=100%)	Venetian blind fully down
0 or 1	(=0%)	Venetian blind fully up								
255	(=100%)	Venetian blind fully down								

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Obj	Object name	Function	Type	Flag
12, 26, 40, 54	Channel A(12), B(25), C(40), D(54), slats, manual mode (automatic mode)	Position 1-100%	1 Byte	CW
<p>Using this object, the slats of the corresponding channel can be moved into a given intermediate position. If the actuator knows only one mode ("standard mode"), the object name contains the term "manual mode". If the actuator distinguishes between automatic mode and manual mode, the object name contains the term "automatic mode". In this case, a positioning command is executed only if automatic mode is switched on at the concerned channel. If the channel is at manual mode, the positioning command will not be executed, but saved and executed after switchover to automatic mode.</p> <p>The slats positioning may cause the height of the Venetian blinds to vary slightly. If the current slats position is invalid (status value = 0, e.g., after ETS download), the slats are not positioned. The slats position becomes valid after one of the limit positions has been reached.</p> <p>Slats positions can be transmitted in a value range of 0 to 255 using this object. The following benchmark figure assignments apply in the process:</p> <p>0 or 1 (=0%) Slats fully open (horizontal slats position) 255 (=100%) Slats fully closed (vertical slats position)</p> <p>As soon as the slats positioning has been completed or a limit position has been reached, the object value of the status object is updated and, if configured correspondingly, transmitted over the bus.</p>				
13, 27, 41, 55	Channel A(13), B(27), C(41), D(55), sun blind, manual mode	Up / Down	1 bit	CW
<p>The up/down movement of the sun blind for the corresponding channel is initiated via these objects. The blind is raised on receipt of a logical "0" and lowered on receipt of a logical "1". An output of the Venetian blind actuator remains switched on until either a stop command is received or the corresponding limit switch has been activated, or, with a drive with integrated electronics for limit switching, the configured travel time including the additional period has elapsed and the limit position must therefore have been reached.</p> <p>If a blind moves from the upper position to the lower limit position (Down) via this object and a "After sun blind Down: slats position in % (0-100)" has been configured, the slats are subsequently opened accordingly. With a movement to the lower limit position from an intermediate position, the slats remain closed.</p> <p>During automatic mode, the receipt of a telegram to one of these objects always effects automatic switching from automatic to manual mode for the channel concerned. All automatic mode commands for a channel being operated manually are not executed, but stored.</p>				

Obj	Object name	Function	Type	Flag
14, 28, 42, 56	Channel A(14), B(28), C(42), D(56), stop/slats, manual mode	Open / Close	1 bit	CW
<p>Using these objects, the movement of a blind is stopped for the respective channel regardless of whether the telegram contains a logical "0" or a logical "1". If the blind is stationary, the slats are opened by one step on receipt of a logical "0" and closed by one step on receipt of a logical "1" (step width as configured).</p> <p>The receipt of a telegram to one of these objects in automatic mode always effects automatic switching from automatic to manual mode for the channel concerned. All automatic mode commands for a channel being operated manually are no longer executed, but stored.</p>				
15, 29, 43, 57	Channel A(15), B(29), C(43), D(57), Position 1 / 2, manual mode	Recall	1 bit	CW
<p>These objects and the following ones make it possible for a room user, who has assigned the "1-bit scene save/recall" function to a bus pushbutton, to save a chosen position of the blind and its slats by a long press on the bus pushbutton, and to automatically recall the saved position of the blind and its slats by a short press on the bus pushbutton.</p> <p>Two favoured intermediate positions of the sun blind and its slats can be automatically recalled per channel using these objects. To make this possible, these positions must have been previously saved via the following objects.</p>				
16, 30, 44, 58	Channel A(16), B(30), C(44), D(58), Position 1 / 2, manual mode	Save	1 bit	CW
<p>Using these objects the saving of two favoured intermediate positions of the blind and its slats can be effected per channel. The saved positions can subsequently be recalled (recalled) at any time via the previous object.</p> <p>A position can be saved successfully only if the movement time(s) of the sun blind and the adjustment time of the slats have been configured, the status objects for blind and slats position have been synchronized by a reference movement to a limit position and if the sun blind is not in motion.</p>				

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Obj	Object name	Function	Type	Flag
17, 31, 45, 59	Channel A(17), B(31), C (45), D (59), status sun blind	Position 1-100%	1 byte	CRT
<p>Using this object, the position of the sun blind (as a percent value) can be queried at any time or automatically transmitted after finishing a movement and after bus / mains voltage recovery. The upper limit position corresponds to the value "1" (=0%), the lower limit position corresponds to the value "255" (=100%). An unknown position is reported by the value "0" (e.g., after an ETS download).</p> <p>The status object is updated for the first time when the movement time(s) of the sun blind and the adjustment time of the slats have been entered and a reference movement has been carried out into a limit position.</p>				
18, 32, 46, 60	Channel A(18), B(32), C (46), D (60), status slats	Position 1-100%	1 byte	CRT
<p>Using this object, the position of the slats (as a percent value) can be queried at any time or automatically transmitted after finishing a slats adjustment. The horizontal slats position corresponds to the value "1" (=0%), the vertical slats position (slats completely closed) corresponds to the value "255" (=100%). An unknown slat position (e.g., after an ETS download) is reported via the value "0".</p> <p>The status object is updated for the first time when the movement time(s) of the sun blind and the adjustment time of the slats have been entered and a reference movement has been carried out into a limit position.</p>				

Parameters**Functions, Objects**

Functions, Objects	Channels A-D_1	Channels A-D_2
Configuration	identical for all channels	
8-bit scene control	No	
Add objects: Position 1 / 2 save/recall	No	
One object Sun blind centrally Up / Down per	device	
One object Movement blockade per	device	
One object Alarm per	device	
Monitoring time for alarm	disabled	
On-time during direct mode	15 minutes	

Parameters	Settings
Configuration	identical for all channels individual for each channel
This parameter is used to set whether an identical configuration of all actuator channels is desired, or an individual configuration of each actuator channel.	
8-bit scene control	No Yes
This parameter is used to set whether the 8-bit scene control integrated into the actuator should be activated. If so, the associated communication object and the "scenes" parameter window for assigning up to 8 scene numbers per actuator channel are inserted.	
Add objects: position 1 / 2 save / recall	No Yes
This parameter is used to set whether the two communication objects "Save position 1 / 2" and "Recall position 1 / 2" per channel should be available to save and recall preferred sun protection positions or not.	
One object Sun blind centrally up/down per	Device channel
Using this parameter it is set whether the object for a central command to move the sun blind to the given limit position should be available only once ("device" setting) or for each channel. One object per channel makes it possible to have not all the channels together controlled through a central command but only those channels where this object has been linked to the central command object. This is necessary, e.g., if two actuator channels are used to control an outside sun blind, and if the other two channels control an internal glare protection or a roller blind to darken the room.	

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Parameters	Settings
One object Movement blockade per	device channel
<p>Using this parameter it is set whether a "Movement blockade" object should be available per device or per actuator channel. If a telegram with "Movement blockade = On" is received via this object, then current movements are completed but bus telegrams are immediately blocked, i.e., manual commands are rejected. Automatic commands are stored until a telegram is received with "Movement blockade = Off". If an alarm is still present at this time, the action configured for the alarm event is then carried out.</p> <p>If "direct mode" is switched on, no account of an activated movement blockade is taken during direct mode, but the blockade becomes effective again after switchover back to "bus mode".</p>	
One object Alarm per	Device channel
<p>Using this parameter it can be set whether a single alarm object should be available which acts on all actuator channels, or whether each actuator channel should have its own alarm object. Whether and how to react to an alarm object set to logical "1" is configured per channel.</p>	
Monitoring time for alarm	disabled 1 minute, 2 minutes, 3 minutes, 4 minutes, 5 minutes, 7 minutes, 10 minutes, 15 minutes, 30 minutes, 60 minutes
<p>This monitoring time applies, even with one alarm object per channel, for all alarm objects jointly.</p> <p>If e.g. a wind detector is faulty or the bus cable to it is disrupted, gusts of wind can lead to the damage or destruction of an exterior sun blind. To prevent this, the actuator can monitor whether the wind detector assigned to the actuator or to a channel is sending telegrams cyclically.</p> <p>If the setting "disabled" is assigned to the parameter "Monitoring time for alarm", the cyclical sending of the alarm object is not monitored.</p> <p>Otherwise, this parameter is used to set the period within which at least one telegram with a logical "0" must be received at the alarm object. If no telegrams are received at the alarm object during the "Monitoring time for alarm," then the alarm is set to logical "1" inside the actuator, i.e. the Venetian blind connected to the actuator channel is moved into the configured position according to the "Behaviour on alarm" parameter and remains in that position.</p> <p>With Alarm = Off, movement commands are accepted again and in automatic mode the positions received last are approached.</p>	

Parameters	Settings
On-time during direct mode	unlimited, 5 minutes, 10 minutes, 15 minutes , 20 minutes, 30 minutes, 45 minutes, 60 minutes
<p>Using this parameter it is set whether direct mode should be permanently switched on via the pushbutton for switching between bus and direct mode and has to be switched off by pressing the button again ("unlimited") or whether it is switched on for a limited time and automatically switched off after the end of the set period. Switching to direct mode for a limited time ensures that the bus mode cannot be permanently blocked by the direct mode.</p> <p>Each activation of one of the pushbuttons on the top of the actuator during direct mode always leads to an extension of the direct mode by the set period. After the end of the period without any button being pressed again, direct mode is switched off automatically and thus "bus mode" is reactivated (if a communication via the bus is possible). The start and end of direct mode are reported via the "Status direct mode" communication object via the bus.</p>	

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**Channels A-D or Channel x
(with Venetian blinds)**

Functions, Objects	Channels A-D_1	Channels A-D_2
Sun protection as	Venetian blind	
Type of limit position switch	electronic	
Add objects: Automatic / Manual mode	Yes	
Send object: Status automatic mode	on change or using read request	
Add object: Sunshine	Yes	
Behaviour if "Sunshine = On"	sun blind down + execute automatic-command	
Behaviour if "Sunshine = Off"	sun blind up + ignore automatic-commands	
Add objects: Position in %	Yes	
Add objects: Status sun blind / slats position	Yes	
Send status objects	on change or using read request	

Functions, Objects	Channels A-D_1	Channels A-D_2
Factor for start-up delay (0-200, base 0.01s)	0	
Pause after end of movement	0 milliseconds	
Factor for sun blind movement time from lower to upper lim. pos.(base 1s)	60	
Factor for sun blind movement time from upper to lower lim. pos.(base 1s)	55	
Factor for slats adj. time from vertical to horizontal position (base 0.1s)	20	
Factor for slats adj. time from vertical pos. until start of move (base 0.1s)	30	
Slats adjustment per step in %	25	
After sun blind Down: slats position in % (0-100)	0	
Behaviour on alarm	move upwards	
Behaviour on bus voltage or mains voltage recovery	no action	

Parameters	Settings
Sun protection as	Venetian blind roller shutter, awning
The type of the sun protection to be controlled is set via this parameter. If the parameter is set to "Shutters, awnings", then the objects "Slats position 0-100%" and "Status slats position 0-100%," as well as the parameters "Factor for slats positioning time from vertical to horizontal," Factor for slats positioning time from vertical to start of move" and "Slats positioning per step in %" appearing for Venetian blinds are hidden, as they are not required for shutters / awnings.	
Type of limit position switch	electromechanical electronic
This parameter sets whether the switching off of the sun blind drive at the limit positions is carried out via electromechanical limit switches or via electronics integrated into the drive. With electromechanical limit switches the activation of a limit switch is recognized by the actuator and used for position synchronization and, with an uninterrupted movement from one limit position to the other, for the automatic adjustment (auto-calibration) of the configured movement time. This is not possible with drives with integrated electronic limit switches. These types of drives are therefore controlled exclusively in a time-limited manner using the configured movement times.	
Add objects: Automatic / Manual mode	No Yes
This parameter sets whether a distinction is made between automatic and manual mode. If this parameter is set at "Yes" per channel one object is added for switching between automatic and manual mode, one for the status report of the automatic mode, one for positioning the Venetian blind and one for positioning the slats by percent values in automatic mode. The distinction between automatic and manual mode is necessary if for example the Venetian blind slats are to be controlled by a weather station according to the position of the sun, but the room user wants to be able to override this tracking of the slats and the positioning of the blind by the weather station.	
Send object: Status automatic mode	using read request only on change or using read request
This parameter is displayed only if the previous parameter "Add objects: Automatic / Manual mode" is set at "Yes." It is used to configure when the object "Status automatic mode" has to be sent. Depending on the parameter setting, a status object is sent only upon a read request or automatically upon each change of status and also after a recovery of bus / mains voltage.	

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Parameters	Settings
Add object: Sunshine	No Yes
<p>This parameter is displayed only if the parameter "Add objects: Automatic / Manual mode" is set to "Yes." It is set through this parameter whether a "Sunshine" communication object should be added per channel. This object makes it possible with the use of a sun blind control module to block the automatic mode if the sun is not shining and to release the automatic mode when the sun is shining again. If this parameter is set at "Yes," the two following parameters are automatically added, via which it is set how the channels should react on receipt of a telegram to the object "Sunshine" depending on the object value.</p>	
Behaviour if "Sunshine = On"	Sun blind down + execute automatic commands Execute automatic commands
<p>Using this parameter it is set how an actuator channel should react on receipt of a telegram to the object "Sunshine" with the object value "1" as long as automatic mode is activated. If automatic mode is not activated for the channel concerned, the telegram is ignored by this channel.</p> <p>"Venetian blind down + execute automatic commands": the sun blind is moved to the lower limit position, the slats if necessary turned to the configured position, the execution of automatic commands is released and subsequent automatic commands are awaited. If during the movement to the lower limit position a telegram is received with a blind or slats position in percent, this telegram is executed immediately, instead of first moving to the lower limit position.</p> <p>"Execute automatic commands:" The execution of automatic commands is released and the automatic commands for blind and slats position last received and stored are executed.</p>	
Behaviour if "Sunshine = Off"	Sun blind up + ignore automatic commands Ignore automatic commands
<p>Using this parameter it is set how an actuator channel should react on receipt of a telegram to the object "Sunshine" with the object value "0" as long as automatic mode is activated. If automatic mode is not activated for the channel concerned, the telegram is ignored by this channel.</p> <p>"Sun blind up + ignore automatic commands": the sun blind is raised to the upper limit position, the execution of automatic commands is blocked, i.e., automatic commands for the channel concerned will be ignored and not executed as long as "Sunshine = Off" is present. However, they are stored. If during the movement to the upper limit position a telegram is received with a blind or slats position in percent, this telegram is ignored, but stored.</p> <p>"Ignore automatic commands:" The sun blind position remains unchanged. The execution of automatic commands is blocked and automatic commands for the channel concerned are ignored and not executed as long as "Sunshine = Out" is present. However, they are stored.</p>	

Parameters	Settings
Add objects: Position in %	No Yes
<p>Via this parameter it can be set whether the two communication objects to position the sun blind and its slats via percentage values should be added per actuator channel. If the parameter "Add objects automatic / manual mode" is set at "Yes," this parameter is automatically set to "Yes" and is no longer adjustable.</p>	
Add objects: Status sun blind / slats position	No Yes
<p>Via this parameter it can be set whether the communication objects "Status sun blind position" and "Status slats position" should be available per actuator channel.</p>	
Send status objects	using read request only on change or using read request
<p>This parameter is displayed only if the previous parameter "Add objects: Status sun blind / slats position" is set at "Yes". Via this parameter it can be set when the two status objects are to be sent. Depending on the parameter setting, the status objects are sent only upon a read request or automatically with each status change as well as upon the recovery of bus / mains voltage.</p>	
Factor for start-up delay (0-200, base 0.01 s)	0...200 0
<p>This parameter appears only if the parameter "Type of limit position switch" is set at "electronic." Drives with integrated electronics have specific start-up delays. Via this parameter the start-up delay of a drive with integrated electronics is taken into account.</p>	
Pause after end of movement	0 milliseconds 0; 100; 200; 500; 800 ms. 1, 1.2, 1.5, 1.8, 2, 3, 4, 5 s
<p>This parameter appears only if the parameter "Type of limit position switch" is set at "electronic." So that the start-up delay remains constant with drives with integrated electronics, after the end of each movement a pause is necessary. Via this parameter the duration of the pause after the end of a movement is set.</p>	
Factor for sun blind movement time from lower to upper limit pos. (base 1s)	0...255 60
<p>Via this parameter the movement time of the sun blind from the lower to the upper limit position is set.</p>	
Factor for sun blind movement time from upper to lower limit pos. (base 1 s)	0...255 55
<p>This parameter appears only if the parameter "Type of limit position switch" is set at "electronic." Via this parameter the movement time of the sun blind from the upper to the lower limit position is set.</p>	

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Parameter	Settings
Factor for slats adj. time from vertical to horizontal position (base 0.1s)	0...255 0
Via this parameter the positioning time of the Venetian blind slats is adjusted from fully closed (=100%) to horizontal slats position (=0). Note: this time should be determined as precisely as possible.	
Factor for slats adj. time from vertical pos. until start of movement	0...255 0
Via this parameter the adjustment time of the Venetian blind slats from fully closed to that slats position from which the blind starts to be raised. The slats can hereby be turned further than the horizontal position (i.e., pointing backwards and partly closed again). Note: this time should be determined as precisely as possible.	
Slats adjustment per step in %	10, 14, 20, 25, 33, 50
Via this parameter it is set by how many percent the slats should be adjusted with one slats adjustment step.	
After sun blind Down: slats position in % (0-100)	0...100 0
After an uninterrupted movement of a Venetian blind from the upper to the lower limit position via one of the corresponding objects, the slats are adjusted from their vertical position into the position set via this parameter. 0% = slats fully opened (horizontal) 100% = slats full closed (vertical) Note: In the case of Venetian blinds, it is hereby assumed that they are lowered with closed slats.	
Behaviour on alarm	move upwards move downwards no action, operation disabled alarm function disabled
It is set via this parameter whether the sun blind should move into the upper or lower limit position in the event of an alarm or whether it should remain in its respective position and no longer be operable (i.e., adjustable) as long as the alarm is present. If this parameter is set at "alarm function disabled" an alarm will be ignored on this channel and the sun blind will remain adjustable.	
Behavior on bus voltage or mains voltage recovery	No action move upwards move downwards
It is set via this parameter to which limit position the sun blind should move to upon bus voltage or mains voltage recovery or whether it should retain its current position.	

**Channels A-D or Channel x
(as at roller shutters, awnings)**

Functions, Objects	Scenes	Channels A-D_1	Channels A-D_2
Sun protection as		roller shutter/awning	
Type of limit position switch		electronic	
Add objects: Automatic / Manual mode		Yes	
Send object: Status automatic mode		on change or using read request	
Add object: Sunshine		No	
Add objects: Position in %		Yes	
Add objects: Status sun blind / slats position		Yes	
Send status objects		on change or using read request	
Factor for start-up delay (0-200, base 0.01s)		2	
Pause after end of movement		500 milliseconds	

Functions, Objects	Channels A-D_1	Channels A-D_2
Factor for sun blind movement time from lower to upper lim. pos.(base 1s)		
60		
Factor for sun blind movement time from upper to lower lim. pos.(base 1s)		
55		
Step-by-step adjustment		
Yes		
Factor on-time for one step (base 0.1s)		
2		
Factor for re-opening time from Down position (base 0.1s)		
5		
Behaviour on alarm		
move upwards		
Behaviour on bus voltage or mains voltage recovery		
no action		

Note: In the case of all the parameters not listed below, the above descriptions for "Sun protection as Venetian blind" apply.

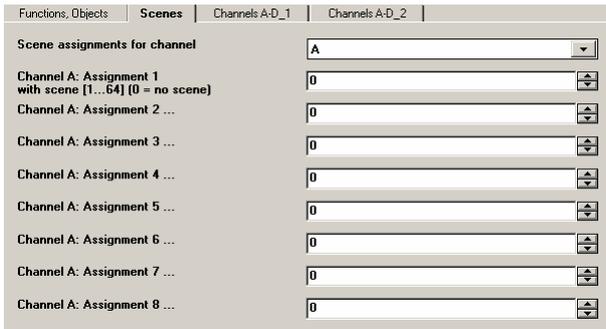
Parameters	Settings
Step-by-step adjustment	No Yes
With a roller shutter or an awning, using this parameter it is set whether, after stopping a movement by a short press of a bus pushbutton, every further short press of the button should be ignored ("No") or whether the roller shutter should be moved by one step through any further short press ("Yes").	
Factor on-time for one step (base 0.1s)	0...255 0
This parameter only appears if the preceding parameter was set to "Yes". It is used to adjust how long the drive is to be switched on to travel one step.	
Factor for re-opening time from Down position (base 0.1s)	0...255 0
Using this parameter the movement time is adjusted by which a roller shutter is raised again after reaching the lower limit position so that the slats of the roller shutter can be somewhat opened and light can penetrate through the gaps into the room.	

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Scenes



Space for notes

Parameters	Settings
Scene assignments for channel	A B C D
This parameter is used to set for which channel the scene assignments are to be shown so that they can be assigned or altered.	
Channel A: Assignment 1 with scene [1...64] (0=no scene)	0-64, 0
This parameter is used to link channel A to a scene number in the range from 1 to 64. "0" means "No scene assigned" (link unused). <u>Note:</u> If a scene is recalled before blind and slats positions have been saved for this scene and this channel, the corresponding channel will be ignored. The successful saving of a position is only possible if the movement time of the sun blind and the adjustment time of the slats have been entered, the status objects for blind and slats adjustment have been synchronized by a reference movement to a limit position and the sun blind is not in motion. When automatic mode is activated (automatic mode = On) saving or recalling (restoring) a scene automatically leads to a switchover to manual mode (automatic mode = Off).	
Channel A: Assignment 2	0-64, 0
This parameter is used to link channel A to another scene number in the range from 1 to 64. "0" means "No scene assigned" (link unused). <u>Note:</u> see Channel A, Assignment 1	

And so on until

Channel A: Assignment 8	0-64, 0
This parameter is used to link channel A to another scene number in the range from 1 to 64. "0" means "No scene assigned" (link unused). <u>Note:</u> see Channel A, Assignment 1	