

art. 01525

Installation manual

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For all the details about the Well-contact Plus system, refer to the installer manual that can be downloaded from the Software ➡ Product Software ➡ Well-contact Plus section on the website www.vimar.com.

General features and functionality

Actuator for 8 roller shutters with relay outputs 6 A 230 V~, 50/60 Hz, KNX standard, installation on DIN rails (60715 TH35), occupies 8 modules size 17.5 mm.

The actuator 01525 for shutters/Venetian blinds controls independent drives at 230 V ~ for sunblind applications via the KNX bus and it is also possible to control ventilators, doors and windows. The devices are bus-powered and do not require an external auxiliary power supply; the output contacts are electro-mechanically interlocked in such a way as to protect the drives from any damage.

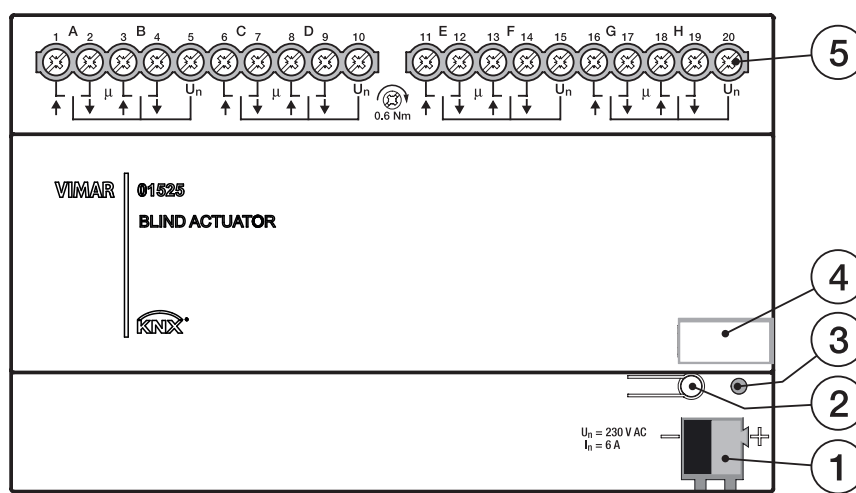
Features

- BUS output voltage BUS: 30 V d.c. SELV.
- Consumption on the bus: 12 mA
- Independent outputs
- Rated voltage U_N : 230 V ~ 50/60 Hz
- Rated current I_N : 6 A
- Operating temperature: -5 °C - + 45 °C (inside)
- Protection rating: IP20
- 8 modules of 17.5 mm.

Connections

The connection to the bus and to the roller shutter control devices is made directly from the terminals on the front of the actuator 01525.

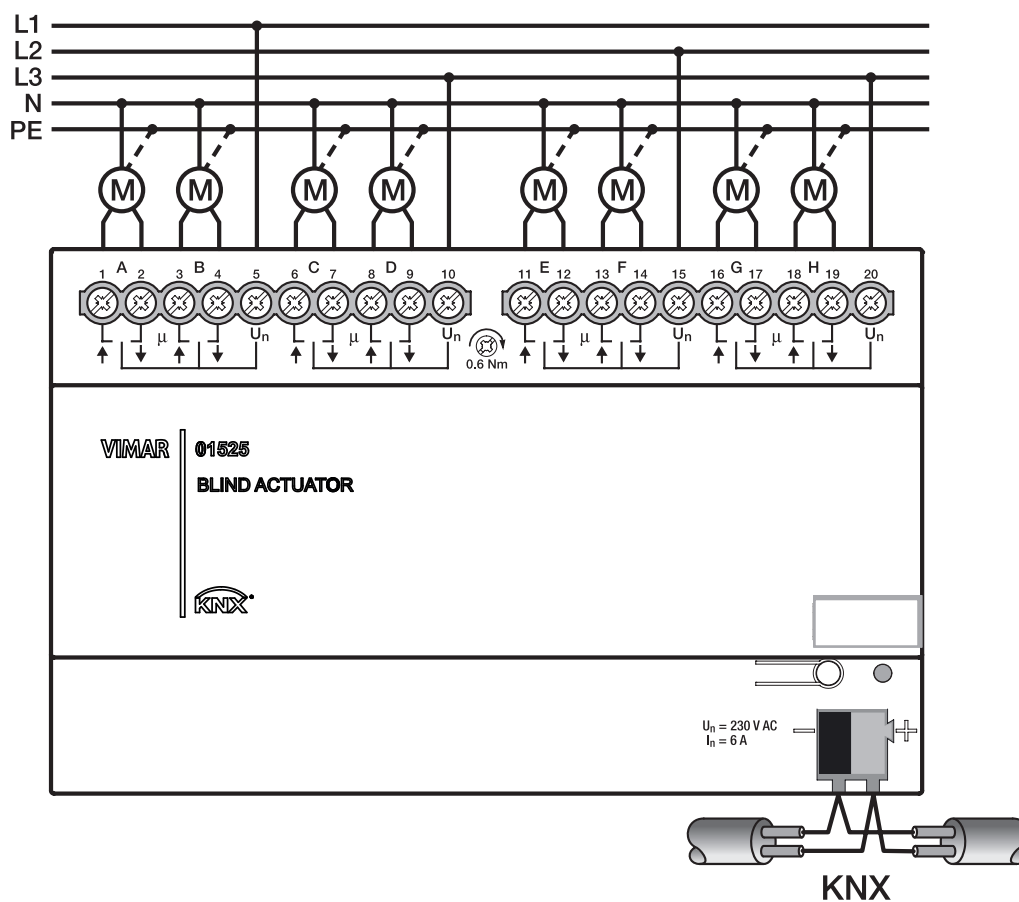
FRONT VIEW



- 1: Bus connecting terminal
- 2: Programming key
- 3: Programming LED (red)
- 4: Label carrier
- 5: Connection terminals ↑ and ↓

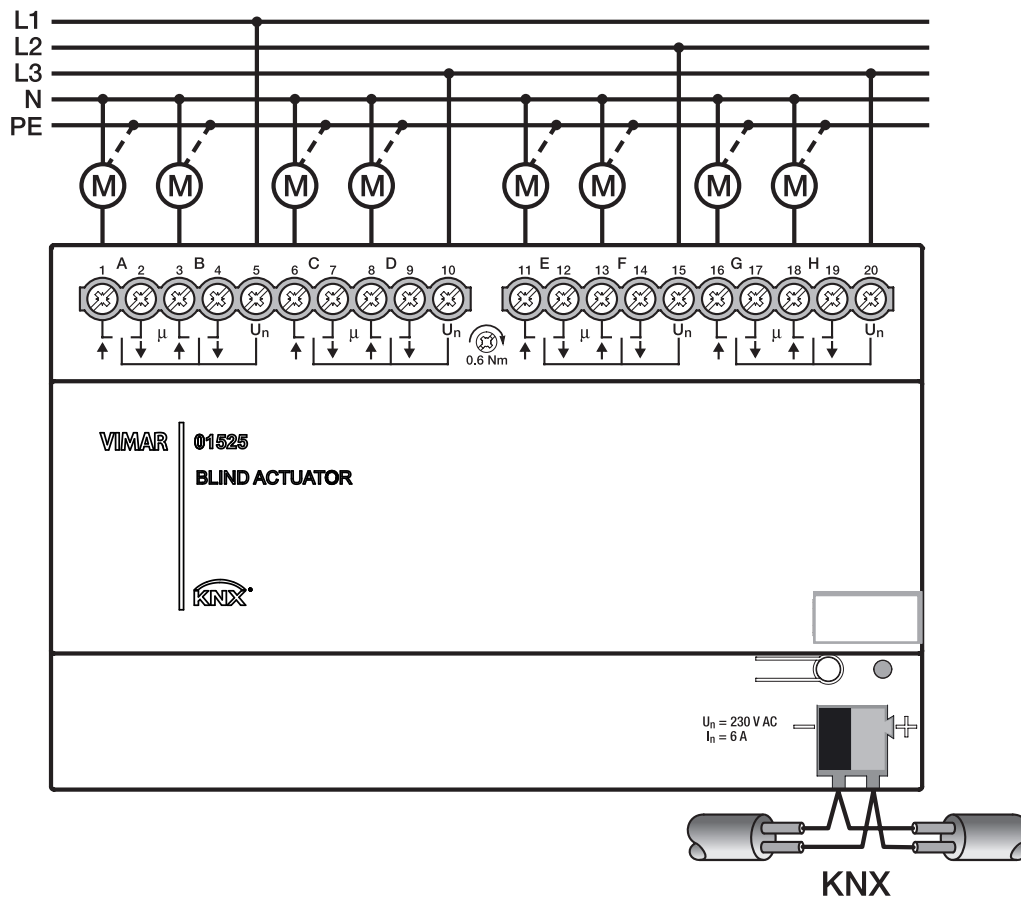
General features and functionality

1 - CONNECTION FOR ROLLING SHUTTER AND VENETIAN BLIND DRIVES



General features and functionality

2 - CONNECTION FOR VENTILATORS/SWITCH FUNCTION



Operation

The physical address and the parameter settings are set using the Engineering Tool Software ETS. Programming LED Lights up red when the device is operated in programming mode (after pressing the Programming button).

ETS parameters and communication objects

1. Communication objects

The parameters as well as the communication objects, which are not available or are exclusively available in the operation mode *Control without slat adjustment*, are specially marked.

Note

The device possesses several outputs. However, as the functions for all outputs are identical, only the functions of output A will be described.

1.1 Summary of communication objects

No. CO	Function	Name	Data Point Type (DPT)	Length	Flags				
					C	R	W	T	U
0	In operation	General	DPT 1.002	1 bit	•	•		•	
1	Request status values	General	DPT 1.017	1 bit	•		•		
2	Not assigned.								
3	Not assigned.								
4	Wind alarm no. 1	Output A-X	DPT 1.005	1 bit	•		•	•	•
5	Wind alarm no. 2	Output A-X	DPT 1.005	1 bit	•		•	•	•
6	Wind alarm no. 3	Output A-X	DPT 1.005	1 bit	•		•	•	•
7	Rain alarm	Output A-X	DPT 1.005	1 bit	•		•	•	•
8	Frost alarm	Output A-X	DPT 1.005	1 bit	•		•	•	•
9	Not assigned								
10	Move blinds/shutter up-down	Output A	DPT 1.008	1 bit	•		•		
11	Slat adjustm./stop up-down	Output A	DPT 1.007	1 bit	•		•		
12	Blinds/shutter up-down limited Enable limitation	Output A	DPT 1.008 DPT 1.003	1 bit	•		•		
13	Move to pos. height [0...255]	Output A	DPT 5.001	1 byte	•		•		
14	Move slats [0...255]	Output A	DPT 5.001	1 byte	•		•		
15	Move to position 1, 2	Output A	DPT 1.022	1 bit	•		•		
16	Move to position 3, 4	Output A	DPT 1.022	1 bit	•		•		
17	Set position 1, 2	Output A	DPT 1.022	1 bit	•		•		
18	Set position 3, 4	Output A	DPT 1.022	1 bit	•		•		
19	Trigger reference movement	Output A	DPT 1.008	1 bit	•		•		
20	8-bit scene	Output A	DPT 18.001	1 byte	•		•		
21	Activation of autom. control	Output A	DPT 1.003	1 bit	•		•	•	•
22	Sun	Output A	DPT 1.002	1 bit	•		•	•	•
23	Move to height for sun [0...255]	Output A	DPT 5.001	1 byte	•		•	•	•
24	Adjust slat for sun [0...255]	Output A	DPT 5.001	1 byte	•		•	•	•
25	Presence	Output A	DPT 1.002	1 bit	•		•	•	•
26	Heating	Output A	DPT 1.002	1 bit	•		•	•	•
27	Cooling	Output A	DPT 1.002	1 bit	•		•	•	•
28	Receive room temperature	Output A	DPT 9.001	2 byte	•		•	•	•
29	Disable/enable autom. control	Output A	DPT 1.003	1 bit	•		•	•	•
30	Disable/enable direct control	Output A	DPT 1.003	1 bit	•		•	•	•
31	Disable	Output A	DPT 1.003	1 bit	•		•	•	•
32	Forced operation (1 bit) Forced operation (2 bit)	Output A	DPT 1.003 DPT 2.002	1 bit 2 bit	• •		• •	•	•
33	Status Height [0...255]	Output A	DPT 5.001	1 byte	•	•		•	
34	Status Slat [0...255]	Output A	DPT 5.001	1 byte	•	•		•	
35	Status Upper end position	Output A	DPT 1.011	1 bit	•	•		•	

ETS parameters and communication objects

No. CO	Function	Name	Data Point Type (DPT)	Length	Flags				
					C	R	W	T	U
36	Status Lower end position	Output A	DPT 1.011	1 bit	•	•		•	
37	Status Operability	Output A	DPT 1.011	1 bit	•	•		•	
38	Status Automatic	Output A	DPT 1.011	1 bit	•	•		•	
39	Status information	Output A	Non DPT	2 byte	•	•		•	

* CO = communication object

1.2 Communication objects *General*

These communication objects are only available once per device for all operation modes and serve the interdisciplinary functions.

No.	Function	Object name	Data type	Flags
0	In operation	General	1 bit DPT 1.002	C, R, T
<p>The communication object is enabled if the parameter <i>Send communication object "In operation"</i> in the General parameter window was selected as Yes. In order to monitor the operation of the blind/roller shutter actuator at regular intervals, an In operation telegram can be sent cyclically to the bus. As long as the communication object is activated, it sends a parameterizable In operation telegram.</p>				
1	Request status values	General	1 bit DPT 1.017	C, W
<p>If a telegram with the value x (x = 0/1/0 or 1) is received at this communication object, all the status objects are sent to the bus, as long as they were not programmed with the option <i>On change or request</i>. Option x = 1 produces the following function: Telegram value: 1 = All status messages, provided they are programmed with the option <i>On change or request</i>, are sent. 0 = No reaction.</p>				
2	Not assigned			
3	Not assigned			

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
4 5 6 7 8	Wind alarm no. 1 Wind alarm no. 2 Wind alarm no. 3 Rain alarm Frost alarm	Output A...X	1 bit DPT 1.005	C, W, T, U
<p>These communication objects can be monitored cyclically. The interval is determined by the monitoring time. If a telegram with the value 0 is received within the monitoring time, then operation of the blinds/shutters is enabled.</p> <p>If a telegram with the value 1 is received or no telegram is received during the monitoring period, then the blinds/shutters are moved to the parameterized <i>Position on wind alarm (or Rain alarm or Frost alarm)</i>. Operation via direct telegrams and automatic telegrams is disabled.</p> <p>The first time a telegram with the value 0 is received again after a weather alarm or after the monitoring period has been exceeded, the blinds/shutters are moved to the parameterizable <i>Position on reset of weather alarm</i> and operation is enabled again.</p> <p>The monitoring period is restarted after each telegram is received as well as after programming of the actuator and on bus voltage recovery. The three wWind alarm communication objects are logically connected via an OR gate, i.e. if a wind alarm is present for one of the three communication objects or a telegram is not received within the monitoring period, the blind/shutter moves to the parameterized <i>Position on wind alarm</i>.</p> <p>Telegram value: 0 = No alarm 1 = Alarm (operation disabled)</p>				
9	Not assigned			

1.3 Communication objects, output A...X Control with and without slat adjustment

These communication objects are available to each output and are used for channel-specific functions. The following section describes the communication objects for the operation modes *Control with slat adjustment* and *Control without slat adjustment*.

No.	Function	Object name	Data type	Flags
10	Move blinds/shutter up-down	Output	1 bit DPT 1.008	C, W
<p>If a telegram with the value 0 is received at this communication object, the blind/shutter is moved upwards to the rest position or to the upper end position. If a telegram with the value 1 is received, the blind/shutter is moved downwards.</p> <p>Telegram value: 0 = UP 1 = DOWN</p>				
11	Slat adjustm./stop up-down ¹ Stop Up-Down ²	Output A	1 bit DPT 1.007	C, W
<p>When a telegram is received (irrespective of whether the value is 0 or 1) at this communication object, the movement is stopped.</p> <p>¹ Operation mode <i>Control with slat adjustment</i>: When the blind/shutter is at rest and a telegram is received at this communication object, a slat adjustment upwards (0 = OPEN) or downwards (1 = CLOSE) is carried out.</p> <p>² Operation mode <i>Control without slat adjustment</i>: When the blind/shutter is at rest and a telegram is received, no action is undertaken.</p> <p>Telegram value: 0 = STOP/open slat adjustment 1 = STOP/slat adjustment close</p>				
12	Blinds/shutter up-down limited	Output A	1 bit DPT 1.008	C, W
<p>This communication object is enabled if in the parameter window <i>Blinds/shutter</i>, the option <i>Via object "Blinds/shutter up-down limited"</i> was selected under the parameter <i>Limit traveling range</i>. If a telegram with the value 0 is received at this communication object, the blind/shutter will move upwards to the parameterized limit. If a telegram with the value 1 is received, the blind/shutter will move downwards to the parameterized limit. The blind/shutter is stopped automatically if the parameterized upper or lower limit is reached.</p> <p>Telegram value: 0 = Limited UP 1 = Limited DOWN</p>				
12	Enable limitation	Output A	1 bit DPT 1.003	C, W
<p>This communication object is enabled if, in the parameter window <i>Blinds/shutter</i>, the option <i>Via object "Enable limitation"</i> was selected under the parameter <i>Limit travelling range</i>. The parameters can be used to set whether the limitation should be executed for a direct telegram or an automatic telegram.</p> <p>Telegram value: 0 = Limitation inactive 1 = Limitation active</p>				

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags		
13	Move to pos. height [0...255]	Output A	1 byte DPT 5.001	C, W		
<p>This communication object is enabled if, in the parameter window <i>A: Positions/presets</i>, the parameter <i>Enable communication objects "Move to height/slat position [0...255]"</i> was selected with option Yes.</p> <p>If a telegram is received at this communication object, the blind/shutter is moved to the height corresponding to the received value.</p> <p>After the target position is reached, the slats will assume the same position which they had before the movement started. If a telegram is received during movement at the communication object <i>Move slats [0...255]</i>, then the slat are set according to the received value after the target position has been reached.</p> <p>Telegram value: 0 = Upper ... = Intermediate position 255 = Lower</p>						
14	Move slats [0...255]	Output A	1 byte DPT 5.001	C, W		
<p>This communication object is enabled if, in the parameter window <i>A: Positions/presets</i>, the parameter <i>Enable communication objects "Move to height/slat position [0...255]"</i> was selected with option Yes.</p> <table><tr><td>Note</td></tr><tr><td>This communication object is only available in the <i>Control with slat adjustment operation mode</i>.</td></tr></table> <p>If a telegram is received at this communications object, the slats are then positioned in accordance with the received value. If the blind/shutter is currently moving, the movement will continue to the target position and only then are the slats positioned.</p> <p>Telegram value: 0 = OPEN slats ... = Intermediate position 255 = CLOSE slats</p>					Note	This communication object is only available in the <i>Control with slat adjustment operation mode</i> .
Note						
This communication object is only available in the <i>Control with slat adjustment operation mode</i> .						
15 16	Move to position 1, 2 Move to position 3, 4	Output A	1 bit DPT 1.022	C, W		
<p>This communication object is enabled if, in the parameter window <i>A: Positions/presets</i>, the parameter <i>Enable communication objects "Move to/set positions 1-4" 1 bit</i> was selected with option Yes.</p> <p>If a telegram is received at this communication object, then the blind/shutter is moved to the saved preset position. In the <i>Control with slat adjustment</i> operation mode, slat positioning is undertaken according to the saved preset value after the position has been reached. If a telegram with the value 0 is received, the blind/shutter moves to the parameterized position 1 (or position 3). If a telegram with the value 1 is received, the blind/shutter moves to the parameterized position 2 (or position 4).</p> <p>Telegram value: 0 = Move to position 1 or position 3 1 = Move to position 2 or position 4</p>						
17 18	Set position 1, 2 Set position 3, 4	Output A	1 bit DPT 1.022	C, W		
<p>This communication object is enabled if, in the parameter window <i>A: Positions/presets</i>, the parameter <i>Enable communication objects "Move to/set positions 1-4" 1 bit</i> was selected with option Yes.</p> <p>If a telegram is received at this communications object, then the current position of the blind/shutter is accepted as the new preset value. If the telegram value 0 is received, then the current position is saved as the preset value for position 1 (or position 3). If the telegram value 1 is received, then the current position is saved as the preset value for position 2 (or position 4).</p> <p>The changed preset values are retained on a bus voltage failure. When the device is reprogrammed, it is possible to set via a parameter if the values parameterized in advance should be overwritten.</p> <p>Telegram value: 0 = Set position 1 or position 3 1 = Set position 2 or set position 4</p>						

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
19	Trigger reference movement	Output A	1 bit DPT 1.008	C, W
<p>This communication object is enabled if, in the parameter window A: Drive, the parameter <i>Enable communication object "Trigger reference movement"</i> 1 bit is selected with the option Yes.</p> <div> <div>Note</div> <div>This communication object is only available in the <i>Control with or without slat adjustment operation modes</i>.</div> </div> <p>A reference movement is triggered using this communication object. On reception of a telegram, the blind/shutter is moved to the very top or very bottom. The saved position is updated and the blind/shutter then moved to the parameterized position after the reference movement.</p> <p>If automatic control is activated, the reference movement interrupts automatic control until the reference position has been reached. However, it is not activated but continues to receive automatic telegrams. These are executed after the reference movement has been completed.</p> <p>If, during a reference movement, a direct or automatic movement or position telegram is received, then the reference movement is performed first and only then is the received target position approached.</p> <p>STOP or step telegrams are ignored during a reference movement. No referencing can be performed if a safety function is activated. A currently active reference movement is interrupted by:</p> <ul style="list-style-type: none"> • Safety telegrams, e.g. Weather alarm, Forced operation, e.g. • Activation of manual operation <p>A reference movement can also be performed when direct operation is disabled.</p> <p>Telegram value: 0 = Reference movement fully upwards 1 = Reference movement fully downwards</p>				
20	8-bit scene	Output A	1 byte DPT 18.001	C, W
<p>This communication is enabled when, in the parameter window A: Functions, the parameter <i>Activate 8-bit scene</i> was selected with the option Yes.</p> <p>This communication can be used to allocate each output to up to 18 scenes using a pre-parameterizable position.</p> <p>If there is a bus voltage failure, then the saved scene values remain intact, as is also the case when the No option in the parameter <i>Overwrite scene on download</i> was selected.</p>				
21	Activation of autom. control	Output A	1 bit DPT 1.003	C, W, T, U
<p>If a telegram with the value 1 is received at this communication object, automatic control is activated for the corresponding output. This means that the output can be controlled via the automatic communication objects <i>Sun</i>, <i>Presence</i>, <i>Heating</i>, <i>Cooling</i>, <i>Receive room temperature</i> as well as <i>Move to height for sun [0...255]</i> and <i>Adjust slat for sun [0...255]</i>.</p> <p>If a telegram with the value 0 is received, then the output no longer reacts to incoming telegrams at the automatic communication objects. If the output is currently executing an automatic travel telegram, then the movement is completed first.</p> <p>If automatic control is activated, then the output updates using the saved values of the communication objects in the automatic communication objects.</p> <p>If there is a reference movement, active automatic control is interrupted until the reference position has been reached. However, it is not activated but continues to receive automatic telegrams. These are executed after the reference movement has been completed.</p> <p>Telegram value: 0 = Automatic control deactivated 1 = Automatic control activated</p>				
22	Sun	Output A	1 bit DPT 1.002	C, W, T, U
<p>Incoming telegrams at this communication object are only considered if automatic control is activated. If a telegram with the value 1 is received at the communications object <i>Sun</i>, the blind/shutter moves to the parameterized <i>Position for sun = 1</i>. If a telegram with the value 0 is received, the blind/shutter moves to the parameterized <i>Position for sun = 0</i>.</p> <p>The reaction to incoming telegrams can be delayed in its execution via the parameter <i>Delay for sun = X</i>, in order to prevent the blinds/shutters from continuously moving up and down in changeable weather. If a telegram with the opposing value is received within the delay time, the <i>Position for sun = 1</i> is not executed. The blind/shutter remains in the <i>Position for sun = 0</i> or vice versa.</p> <p>If, for <i>Position for sun = X</i>, the option <i>Receive position via object (8-bit)</i> is set, then, after the delay time has elapsed, the output moves to the position most recently received on the communication objects <i>Move to height for sun [0...255]</i> (operation mode <i>Control with slat adjustment</i> and operation mode <i>Control without slat adjustment</i>), as well as <i>Adjust slat for sun [0...255]</i> (only operation mode <i>Control with slat adjustment</i>).</p> <p>Telegram value: 0 = No sun 1 = Sun</p>				

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
23	Move to height for sun [0...255]	Output A	1 byte DPT 5.001	C, W, T, U
<p>Incoming telegrams at this communication object are only executed if automatic control is activated and if a telegram with the value 1 has been received at the communication object <i>Sun</i>. The blind/shutter is then positioned to correspond with the received value.</p> <p>Telegram value: 0 = Upper ... = Intermediate position 255 = Lower</p> <p>After the target position is reached, the slats will assume the same position which they had before the movement started. If a telegram is received during movement at the communication object <i>Adjust slat for sun [0...255]</i>, then the slats are set to the corresponding received value after the target position has been reached.</p>				
24	Adjust slat for sun [0...255]	Output A	1 byte DPT 5.001	C, W, T, U
<p>Incoming telegrams at this communication object are only executed if automatic control is activated and if a telegram with the value 1 has been received at the communication object <i>Sun</i>. The slats are then positioned to correspond with the received value.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <p>This communication object is only available in the <i>Control with slat adjustment</i> operation mode.</p> </div> <p>Telegram value: 0 = OPEN slats ... = Intermediate position 255 = CLOSE slats</p> <p>If the blind/shutter is currently moving, the movement will continue to the target position and the positioning of the slats is then undertaken.</p>				
25	Presence	Output A	1 bit DPT 1.002	C, W, T, U
<p>Incoming telegrams at this communication object are only considered if automatic control is activated. If a telegram with the value 1 is received at this communication object, the automatic sun protection is activated and the blind/shutter is controlled in accordance with the parameterized <i>Position for sun = X</i>.</p> <p>If a telegram with the value 0 is received at this communication object, then automatic heating/cooling is activated and the blind/shutter is controlled in accordance with the parameterized <i>Position for HEATING = 1 and sun = X</i> or <i>Position for COOLING = 1 and sun = X</i>.</p> <p>The reaction to incoming telegrams can be delayed in its execution via the parameter <i>Delay for presence = X</i>, in order to prevent the blinds/shutters continuously moving up and down when people enter and leave the room frequently. If a telegram with the opposing value is received within the delay time, then the heating/cooling target position is not moved to and the blind/shutter remains in the automatic sun protection target position or vice versa.</p> <p>Telegram value: 0 = e.g. no-one present (> Automatic heating/cooling active) 1 = e.g. persons present (> Automatic sun protection active)</p> <p>Observe the telegram values for communication objects 26/27 and possibly 28 (heating/cooling)!</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <p>If automatic heating/cooling is to be programmed, but no automatic sun protection is to be programmed, then the communication object <i>Presence</i> has to remain without logical linking. Accordingly, the value 0 is automatically present in this communication object. Thus automatic heating/cooling is immediately activated, as soon as automatic control has been activated via the communication object <i>Activation of autom. control</i>.</p> </div>				
26 27	Heating Cooling	Output A	1 bit DPT 1.002	C, W, T, U
<p>Incoming telegrams to these communication objects are only executed if automatic control is activated and if a 0 has been received on the <i>Presence</i> communication object.</p> <p>If a telegram with the value 1 is received at the communication object Heating, then the output will move to the parameterized <i>Position for HEATING = 1 and sun = 1</i> or <i>Position for HEATING = 1 and sun = 0</i>.</p> <p>If a telegram with the value 1 is received at the communication object Cooling, then the output will move to the parameterized <i>Position for COOLING = 1 and sun = 1</i> or <i>Position for COOLING = 1 and sun = 0</i>.</p> <p>If both communication objects have most recently received a 0 or if both have received a 1, then automatic heating/cooling is deactivated and the output is controlled via automatic sun protection.</p> <p>Telegram value: 0 = Do not HEAT/do not COOL 1 = HEATING/COOLING</p>				

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
28	Receive room temperature	Output A	2 byte DPT 9.001	C, W, T, U
<p>Incoming telegrams at this communication object are only executed if automatic control is activated and if a 0 was received at the <i>Presence</i> communications object and Overheat control was activated.</p> <p>The room temperature, for example from a room thermostat, can be received via this communication object. The blind/shutter moves to the parameterized position as soon as the parameterized threshold value has been exceeded and the value 1 was received on the communication objects <i>Heating</i> and <i>Sun</i>. Thus, for example, during the heating period (winter), overheating of the room can be avoided during periods of sunshine and simultaneous absence.</p>				
29	Disable/enable autom. control	Output A	1 bit DPT 1.001	C, W, T, U
<p>This communication object is enabled when automatic control is active and in the parameter window <i>A: Automatic sun protection</i>, the parameter <i>Toggling to automatic control</i> was selected with the option <i>Disable/enable via object</i>.</p> <p>If a telegram with the value 1 is received at this communication object, automatic control is disabled and the output can only be controlled directly via communication objects. Automatic control can no longer be activated via the communication object <i>Activation of autom. control</i>.</p> <p>If a telegram with the value 0 is received at this communication object, automatic control can be reactivated again for the corresponding output.</p> <p>Telegram value: 0 = Automatic control enabled 1 = Automatic control disabled</p>				
30	Disable/enable direct control	Output A	1 bit DPT 1.003	C, W, T, U
<p>This communication object is enabled when automatic control is active and in the parameter window <i>A: Automatic sun protection</i>, the parameter <i>Toggling to direct control</i> was selected with the option <i>Disable/enable via object</i>.</p> <p>If a telegram with the value 1 is received on this communication object, the incoming telegrams will not be executed directly at the communication objects (with the exception of <i>Travel detection/Trigger reference movement</i>).</p> <p>If a telegram with the value 0 is received at this communication object, direct operation is enabled. However, direct telegrams (UP, DOWN, etc.) are only executed when automatic control is deactivated. Otherwise, automatic control has a higher priority and direct telegrams are not taken into account.</p> <p>Telegram value: 0 = Direct operation enabled 1 = Direct operation disabled</p>				
31	Block	Output A	1 bit DPT 1.003	C, W, T, U
<p>If a telegram with the value 1 is received, the output can be moved to a parameterized position. Operation of the output via direct automatic communication objects is disabled. When the disabling is lifted, the blind/shutter is moved to the parameterized position for the removal of Wind alarm, Block and Forced operation. Operation via the direct and automatic communication objects is enabled again.</p> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled</p>				
32	Forced operation 1 bit	Output A	1 bit DPT 1.003	C, W, T, U
<p>If a telegram with the value 1 is received, the output can be moved to a parameterized position. Operation of the output via direct automatic communication objects is disabled. When the disabling is lifted, the blind/shutter is moved to the parameterized position for the removal of Wind alarm, Block and Forced operation. Operation via the direct and automatic communication objects is enabled again.</p> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled/Forced operation active</p>				
32	Forced operation 2 bit	Output A	2 bit DPT 2.002	C, W, T, U
<p>If a telegram with the value 2 (binary 10) is received at this communication object, then the blind/shutter is raised. Operation via direct and automatic communication objects is disabled.</p> <p>If a telegram with the value 3 (binary 11) is received, then the blind/shutter is lowered. Operation via direct and automatic communication objects is disabled.</p> <p>Forced operation is rescinded by the values 0 (binary 00) or 1 (binary 01). The blind/shutter then moves to the parameterized position for the removal of Wind alarm, Block and Forced operation. Operation via the direct and automatic communication objects is enabled again.</p> <p>Telegram value: 0 (binary 00) = Operation enabled 1 (binary 01) = Operation enabled 2 (binary 10) = OPEN/Operation disabled 3 (binary 11) = CLOSED/Operation disabled</p>				

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
33	Status Height [0...255]	Output A	1 byte DPT 5.001	C, R, T
<p>The output sends the current positioned height of the blind/shutter to this communication object. The current position is sent after completion of a movement.</p> <p>Telegram value: 0 = Top ... = Intermediate position 255 = Bottom</p>				
34	Status Slat [0...255]	Output A	1 byte DPT 5.001	C, R, T
<p>The output sends the current position of the slat setting to this communication object. The current position is sent after completion of a movement.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <p>This communication object is only available in the <i>Control with slat adjustment operation mode</i>.</p> </div> <p>Telegram value: 0 = OPEN slats ... = Intermediate position 255 = CLOSE slats</p>				
35 36	Status Upper end position Status Lower end position	Output A	1 bit DPT 1.008	C, R, T
<p>The output sends information to this communication object as to whether the blind/shutter is, or is not, in the upper or lower end limit position.</p> <p>Telegram value: 0 = Blind/shutter not in upper or lower end position 1 = Blind/shutter in upper or lower end position</p> <p>The upper/lower status position is sent after the upper/lower end position is reached or exited.</p>				
37	Status Operability	Output A	1 bit DPT 1.002	C, R, T
<p>The output sends information to this communication object if the output operation is enabled or blocked. Operation is blocked is either one of the safety functions has been activated, e.g. wind alarm, or if the device is in manual operation.</p> <p>Example: An LED on the push button can display to the user that the operation of the output is not possible via push buttons and the automatic control also cannot be activated.</p> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled</p>				
38	Status Automatic	Output A	1 bit DPT 1.002	C, R, T
<p>The device sends information to this communication on whether automatic control has been activated or deactivated.</p> <p>Telegram value: 0 = Automatic control deactivated 1 = Automatic control activated</p>				

ETS parameters and communication objects

No.	Function	Object name	Data type	Flags
39	Status information	Output A	2 byte Non DPT	C, R, T

The device uses this communication object to send the status information to each output.

The Low Byte (Bit no. 0...7) contains the information on the current operating state. Only one status can ever be active.

The High Byte (Bit no. 8...15) is not assigned in the operation mode *Ventilation flaps, switch mode*.

The current status or communication object value is sent after a change or request by the communication object *Request status values*.

Low Byte

- Bit 0: Manual operation
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 1: Block active
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 2: Forced operation
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 3: Frost alarm
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 4: Rain alarm
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 5: Wind alarm
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 6: Automatic sun protection
Telegram value 0: Inactive
Telegram value 1: Active
- Bit 7: Automatic heating/cooling
Telegram value 0: Inactive
Telegram value 1: Active

High Byte

- Bit 8: Drive error (no current detection on activated drive)
Telegram value 0: No error
Telegram value 1: Error
- Bit 9: Drive in motion or relays activate drive
Telegram value 0: No
Telegram value 1: Yes
- Bit 10: Drive turns to CLOSED or relays control drive in the CLOSED direction
Telegram value 0: No
Telegram value 1: Yes
- Bit 11: Drive turns to OPEN or relays control drive in the OPEN direction
Telegram value 0: No
Telegram value 1: Yes
- Bit 12: Send and receive delay active
Telegram value 0: No
Telegram value 1: Yes
- Bit 13...15: Not assigned

ETS parameters and communication objects

1.4 Communication objects Output A...X Operation mode *Ventilation flaps, switch mode*

N.	Function	Object name	Data type	Flags
10	Flaps open-closed/on-off	Output	1 bit DPT 1.009	C, W
<p>If a telegram with the value 1 is received at this communication object, then the output contact closes. The connected ventilation flaps are thus opened and connected consumers are switched on. If a telegram with the value 0 is received, then the ventilation flaps or the consumers are switched off. The output contact returns to the neutral middle position. The polarity of the communication object can be changed via the parameter <i>Invert output</i>.</p> <p>Telegram value: 0 = CLOSED/OFF 1 = OPEN/ON</p>				
31	Block	Output A	1 bit DPT 1.003	C, W, T, U
<p>If a telegram with the value 1 is received the output will move to a parameterized position. Operation of the output via direct automatic communication objects is disabled. When the disabling is lifted, the blind/shutter moves to the parameterized position for the removal of Wind alarm, Block and Forced operation. Operation via the direct and automatic communication objects is enabled again.</p> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled</p>				
32	Forced operation 1 bit	Output A	1 bit DPT 1.003	C, W, T, U
<p>If a telegram with the value 1 is received the output will move to a parameterized position. Operation of the output via direct automatic communication objects is disabled. When the disabling is lifted, the blind/shutter moves to the parameterized position for the removal of Wind alarm, Block and Forced operation. Operation via the direct and automatic communication objects is enabled again.</p> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled/Forced operation active</p>				
32	Forced operation 2 bit	Output A	2 bit DPT 2.001	C, W, T, U
<p>If a telegram with the value 2 (binary 10) is received at this communication object, then the output contact closes. The connected ventilation flaps are thus opened and connected consumers are switched on. Operation via direct communication objects is disabled.</p> <p>If a telegram with the value 3 (binary 11) is received, then the ventilation flaps or the consumers are switched off. Operation via direct communication objects is disabled.</p> <p>Forced operation is rescinded by the values 0 (binary 00) or 1 (binary 01). The output then activates the position on rescinding of Wind alarm, Block and Forced operation. Operation via the direct communication objects is enabled again.</p> <p>Telegram value: 0 (binary 00) = Operation enabled 1 (binary 01) = Operation enabled 2 (binary 10) = OPEN/ON - Operation disabled 3 (binary 11) = CLOSED/OFF - Operation disabled</p>				
33	Status Open-closed/on-off	Output A	1 bit DPT 1.011	C, R, T
<p>The output sends information to this communication object on whether the ventilation flap is opened or closed or whether connected consumers are switched on or switched off. The current status is sent after a telegram is executed. If a new telegram is received in the interim, then the current status is only sent after the execution of the last telegram.</p> <p>Telegram value: 0 = Ventilation flaps CLOSED or switching contact OFF 1 = Ventilation flaps OPEN or switching contact ON</p>				
37	Status Operability	Output A	1 bit DPT 1.002	C, R, T
<p>The output sends information to this communication object if the output operation is enabled or blocked. Operation is blocked is either one of the safety functions has been activated, e.g. wind alarm, or if the device is in manual operation.</p> <div data-bbox="239 1814 1420 1892"> <p>Example</p> <p>An LED on the push button can display to the user that the operation of the blind/shutter is not possible via push buttons.</p> </div> <p>Telegram value: 0 = Operation enabled 1 = Operation disabled</p>				

ETS parameters and communication objects

N.	Function	Object name	Data type	Flags
39	Status information	Output A	2 byte Non DPT	C, R, T
<p>The device uses this communication object to send the status information to each output.</p> <p>The Low Byte (Bit no. 0...7) contains the information on the current operating state.</p> <p>High Byte (Bit no. 8...15) contains additional information, specially for the connected drive.</p> <p>The current status or communication object value is sent after a change or request by the communication object <i>Request status values</i>.</p> <p>Low Byte</p> <p>Bit 0: Manual operation Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 1: Block active Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 2: Forced operation Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 3: Frost alarm Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 4: Rain alarm Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 5: Wind alarm Telegram value 0: Inactive Telegram value 1: Active</p> <p>Bit 6: Not used</p> <p>Bit 7: Not used</p> <p>High Byte</p> <p>Bit 8...15: Not used</p>				

ETS parameters and communication objects

2. Parameters

The parameterization of the devices is performed using the Engineering Tool Software ETS.

The default values of the parameters are underlined,

e.g.:

Options: Yes
No

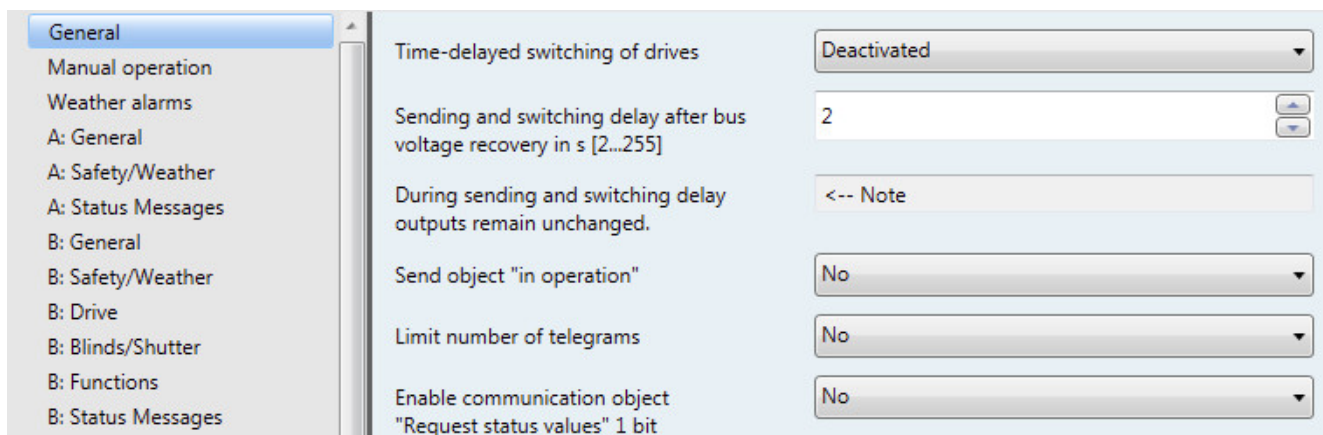
Possible notes, e.g.:

Note

The device features several outputs. However, as the functions for all outputs are identical, only the functions of output A will be described.

2.1 Parameter window *General*

The higher-level parameters can be set in this parameter window.



Time-delayed switching of drives

Options: Deactivated
Activated

In larger KNX systems, a high starting current peak is generated if all drives start simultaneously due to central telegrams. The starting current peak can be limited by a time delayed switching of the outputs. The central travel telegrams are executed with a delay. The time delay when implementing a travel movement applies for the following communication objects or states (even for activated automatic control):

- *Move to height for sun [0...255], Adjust slat for sun [0...255] Block, Forced operation*
- *Wind alarm, Rain alarm, Frost alarm*
- *Move to height position [0...255]*
- *Move slats [0...255]*
- *Programming, Reset*
- *Bus voltage failure*
- *Bus voltage recovery*
- *Position on reset of weather alarm, blocking and forced operation*

The time delay when undertaking a movement action is not considered for the following communication objects:

- *Move blinds/shutter up-down, blinds/shutter up-down limited*
- *Slat adjustment/stop up/down, stop*
- *Move to position 1, 2, Move to position 3, 4*

This ensures that the direct operation function, e.g. via a push button, is not time delayed.

- *Activated: The parameter Time delay in s appears.*

Time delay in s [1...15]

Options: 1...15

This parameter determines the time delay used by the outputs when they switch successively. The set time delay applies for all outputs or connected drives of the actuator.

ETS parameters and communication objects

Caution

The parameterized time delay also applies for automatic control, weather alarms and forced operations. Therefore, the time delay should only be used in large systems if a mains voltage failure is to be expected when all the drives start-up simultaneously.

Sending and switching delay after bus voltage recovery in s [2...255]

Options: 2...255

During the sending and switching delay, telegrams are only received. The telegrams are not processed, however, and the outputs remain unchanged. No telegrams are sent via the bus.

After the sending and switching delay, telegrams are sent and the state of the outputs is set to correspond with the parameterization or the communication object values.

If communication objects are read out via the bus during the sending and switching delay, e.g. by a visualization system, these read requests are stored, and a response is sent, after the sending and switching delay has been completed.

An initialization time of about two seconds is included in the delay time. The initialization time is the time that the processor requires to be ready to function.

How does the device react on bus voltage recovery?

After bus voltage recovery, the device always waits for the transmission delay time to elapse before sending telegrams via the bus. The parameterized positions are moved to immediately after bus voltage recovery. Incoming telegrams are updated during the switching delay. The most recently received telegram of the highest priority is executed. Manual operation can be executed immediately.

Send object "In operation"

Options: No
Yes

The communication object *In operation* indicates the presence of the device on the bus. This cyclic telegram can be monitored by an external device. If a telegram is not received, the device may be defective or the bus cable to the transmitting device may be interrupted.

- **No:** The communication object *In operation* is not enabled.
- **Yes:** The communication object *In operation* and the following parameters are enabled:

Sending cycle time in s [1...65.535]

Options: 1...60...65.535

Here, the time interval, at which the communication object *In operation* (No. 0) cyclically sends a telegram, is sent.

Object value

Options: 1
0

The polarity of the object value is set here.

Note

After bus voltage recovery, the communication object sends its value after the set sending and switching delay.

Limit number of telegrams

Options: No
Yes

The load on the bus generated by the device is limited by the telegram rate. This limit relates to all telegrams sent by the device.

- **Yes:** The following parameters appear:

Max. number of sent telegrams

Options: 1...255

In period

Options: 50 ms/100 ms...1 s...30 s/1 min

These parameters defines the number of telegrams sent by the device within a period. The telegrams are sent as quickly as possible at the start of a period.

ETS parameters and communication objects

Note

The device counts the number of telegrams sent within the parameterized period. As soon as the maximum number of sent telegrams is reached, no further telegrams are sent to the KNX until the end of the period. A new period commences at the end of the previous period. The telegram counter is reset to zero, and sending of telegrams is allowed again. The current communication object value is always sent at the time of sending.

The first period (break time) is not predefined exactly. The period can be between zero seconds and the parameterized time. The subsequent sending times correspond with the parameterized time.

Example:

Maximum number of sent telegrams = 5, in period = 5 s. 20 telegrams are ready to be sent. The device immediately sends 5 telegrams. The next 5 telegrams are sent after maximum 5 seconds. From this point, a further 5 telegrams are sent on the KNX every 5 seconds.

Enable communication object

"Request status values" 1 bit

Options: ☐ No
☐ Yes

- **Yes:** The 1 bit communication object *Request status values* is enabled.

Using this communication object, all the status messages can be requested, provided that they have been parameterized with the option *On change or request*.

With the option **Yes**, the following parameters appear:

Request with object value

Options: ☐ 0
☐ 1
☐ 0 or 1

- **0:** Sending status messages is requested with the value 0.
- **1:** Sending status messages is requested with the value 1.
- **0 or 1:** Sending status messages is requested with the values 0 or 1.

2.2 Parameter window *Weather alarms*

All higher level settings affecting the weather alarms are undertaken in this parameter window.

General Manual operation Weather alarms A: General A: Safety/Weather A: Drive A: Blinds/Shutter A: Functions A: Status messages B: General B: Safety/Weather B: Drive B: Blinds/Shutter B: Functions B: Status messages C: General C: Safety/Weather C: Drive C: Blinds/Shutter C: Functions C: Status messages D: General	Parameter settings	Standard
	Order of priority for weather alarm functions	1.Wind alarm - 2.Rain alarm - 3.Frost alarm
	Communication object no. 1 for wind alarm	Activated
	Communication object no. 2 for wind alarm	Deactivated
	Communication object no. 3 for wind alarm	Deactivated
	Monitoring period wind alarm in s [0...1,000] (0 = monitoring deact.)	0
	Communication object for rain alarm	Deactivated
	Communication object for frost alarm	Deactivated
	Wind, rain, and frost alarm are active only if a position is set on page "X: Safety/Weather"	<-- Note
	Read activated weather alarm objects after bus voltage recovery	No

ETS parameters and communication objects

Parameter settings

Options: Standard
User-defined

Settings on the scope of parameterization can be made here.

- **Standard:** In this setting, there is the option of allocating the output to a communication object for wind alarm. The communication object *Wind alarm No. 1* and the parameter *Monitoring period wind alarm in s* are shown.
- **User-defined:** In this setting, complete parameter access is possible for complex applications. Additional parameters for editing appear.

Order of priority for weather alarm functions

Options: 1.Wind alarm – 2.Rain alarm – 3.Frost alarm
1.Wind alarm - 2.Frost alarm - 3.Rain alarm
1.Rain alarm - 2.Wind alarm - 3.Frost alarm
1.Rain alarm - 2.Frost alarm - 3.Wind alarm
1.Frost alarm - 2.Rain alarm - 3.Wind alarm
1.Frost alarm - 2.Wind alarm - 3.Rain alarm

This parameter defines the priority between the weather alarm functions. If more than one weather alarm occurs simultaneously, then only one weather alarm with the highest priority is carried out.

Communication object no. 1 for wind alarm

Communication object no. 2 for wind alarm

Communication object no. 3 for wind alarm

Communication object for rain alarm

Communication object for frost alarm

Options: Deactivated
Activated

These parameters activate the weather alarm functions and the corresponding communication objects.

- **Activated:** The parameters for the monitoring times of the weather alarms appear.

Note

Wind, rain and frost alarms are only activated when a position for the weather alarm was activated in parameter window **A: Safety/Weather:**

Example:

Position on wind alarm

Option: Activated - Op

Monitoring period wind alarm in s

Monitoring period rain alarm in s

Monitoring period frost alarm in s

[0...1,000] (0 = monitoring deact.)

Options: 0...1,000

These parameters determine the cyclic monitoring time for wind, rain and frost alarms in seconds.

The weather alarms of the weather sensors are cyclically monitored by the 01525.

If the weather sensor sends the telegram value 0, there is no weather alarm. The 01525 expects this signal. If the signal is not received within the parameterized monitoring period, it can be assumed that the sensor is defective or the bus line has been interrupted. The blind/shutter is moved to the parameterized alarm position. The operation is inhibited.

If the weather sensors send the telegram value 1 (weather alarm), the blind/shutter immediately moves to the parameterized alarm position. The parameter *Monitoring period rain alarm in s* or *Monitoring period frost alarm in s* is displayed, as soon as the parameters *Communication object for rain alarm* or *Communication object for frost alarm* have been set with the option **Activated**.

- 0: Cyclic monitoring is deactivated.

Note

The monitoring period in the 01525 should be selected to be at least three to four times as large as the cyclic transmission time of the sensor. In this way, the immediate absence of a signal, e.g. due to a high bus load, does not immediately result in the blinds/shutters being moved to the alarm position.

**Read activated weather alarm objects
after bus voltage recovery**

Options: Yes
No

- **Yes:** The values of the communication objects *Wind alarm 1...3*, *Rain alarm* and *Frost alarm* are - if activated - read after bus voltage recovery. Should a weather alarm be pending, then the position for the weather alarm is moved to.

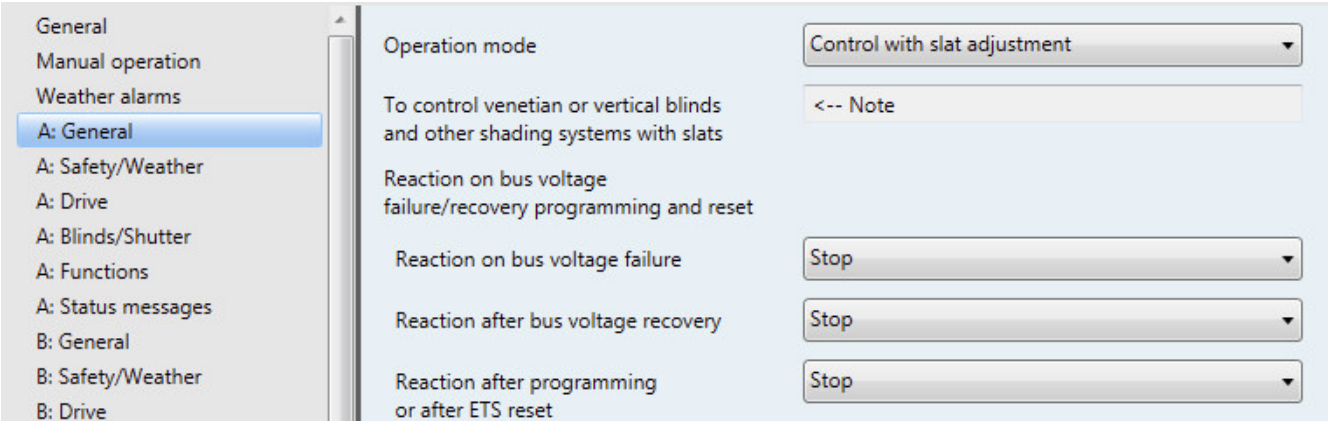
Note

Read flags must be set in the sending device.

ETS parameters and communication objects

2.3 Parameter window A: General

The general settings for output A are undertaken in this parameter window.



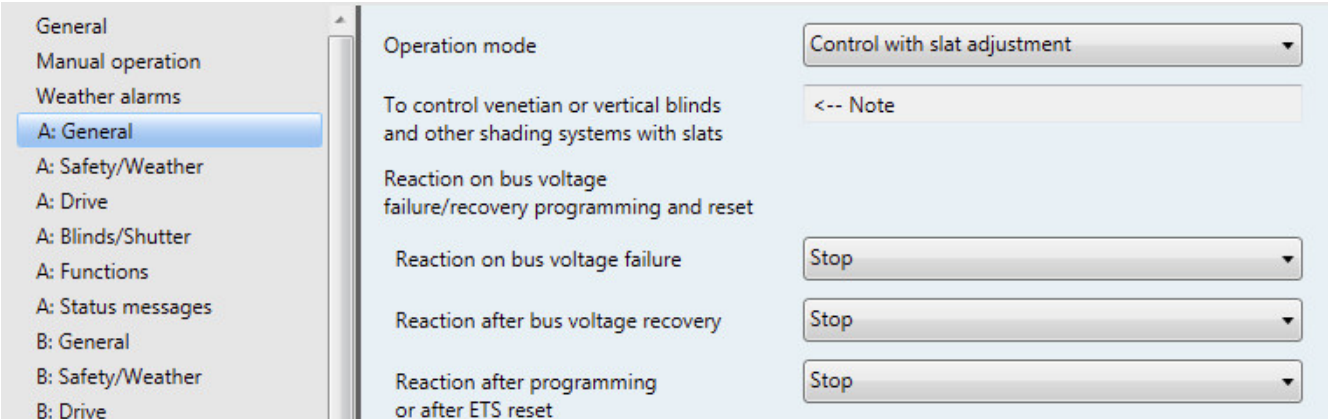
Operation mode

Options: Control with slat adjustment
Control without slat adjustment
Ventilation flaps, switch mode

This parameter defines the operation mode of the output. The communication objects and the parameters for the respective output differ slightly depending on the operation mode. The operation modes *Control with slat adjustment* and *Control without slat adjustment* only differ slightly on account of the slat adjustment functions. For this reason, these are described using the *Control with slat adjustment* operation mode. The parameters as well as the communication objects, which are not available or are exclusively available in the operation mode *Control without slat adjustment*, are specially marked.

2.4 Parameter Operation mode control with and without slat adjustment

The parameters as well as the communication objects, which are not available or are exclusively available in the operation mode *Control without slat adjustment*, are specially marked.



Reaction on bus voltage failure

Options: No reaction
Up
Down
Stop

The reaction of the output on bus voltage failure is set using this parameter.

- **No reaction:** The output contacts remain in their current position.
- **Up/Down:** The blind/shutter moves upwards or downwards.
- **Stop:** If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.

Reaction after bus voltage recovery

Reaction after programming or after ETS reset

Options: No reaction
Up
Down
Stop

ETS parameters and communication objects

Position 1...4
Individual position
Enable automatic sun protection

This parameter determines the response of the output on bus voltage recovery or after a download and ETS reset.

- **No reaction:** The output contacts remain in their current position.
- **Up/Down:** The blind/shutter moves up or down.
- **Stop:** If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Position 1...4:** If one of these positions is selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window **A: Positions/Presets**.
- **Individual position:** A freely-definable position is moved to. The following parameters appear.

Position height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

- **Enable automatic sun protection:** Automatic sun protection is switched on after a bus voltage recovery or after a download and ETS reset.

2.4.1 Parameter window A: Safety/weather

In this parameter window, the settings affecting the function Safety/weather are undertaken.

General	Parameter settings	Standard
Manual operation	Output reacts on communication object for wind alarm no.	1
Weather alarms	Position on wind alarm	Activated - up
A: General	Position on rain alarm	Deactivated
A: Safety/Weather	Position for frost alarm	Deactivated
A: Drive	Block	Deactivated
A: Blinds/Shutter	Forced operation (1 bit/2 bit)	Deactivated
A: Functions	Position on reset of weather alarm, blocking and forced operation	No reaction
A: Status messages	Position will only be carried out with inactive autom. sun protection	<-- Note
B: General	Disable automatic sun protection on reset of safety function	No
B: Safety/Weather	Order of priority for safety alarm functions	1.Weather alarm - 2.Block - 3.Forced operation
B: Drive	Wind, rain, and frost alarm are active if objects on page "Weather alarms" are enabled and linked with group addresses	<-- Note
B: Blinds/Shutter		
B: Functions		
B: Status messages		
C: General		
C: Safety/Weather		
C: Drive		
C: Blinds/Shutter		
C: Functions		
C: Status messages		
D: General		
D: Safety/Weather		
D: Drive		
D: Blinds/Shutter		
D: Functions		

Parameter settings

Options: Standard
User-defined

This parameter defines the scope of parameterization.

- **Standard:** In the case of a wind alarm, the blind/shutter moves to a preset position using the parameter *Position on wind alarm*. This setting is usually sufficient

ETS parameters and communication objects

in smaller projects. In this setting, the output only reacts to the communication object *Wind alarm No.1*.

- **User-defined:** Complete parameter access for complex applications and safety settings of the output are possible. Other parameters appear.

Output reacts on communication object for wind alarm no.

Options: Output does not react to wind alarm
1/ 2/ 3/ 1+2/ 1+3/ 2+3/ 1+2+3

This parameter determines the wind alarm communication objects to which the output reacts. The values of the assigned communication objects are linked by a logic OR.

Position on wind alarm

Position on rain alarm

Position on frost alarm

Options: Activated - no reaction
Activated - up
Activated - down
Activated - stop
Activated - Position 1...4
Activated - individual position
Deactivated

These parameters define the position of the blind/shutter when a weather alarm (wind, rain, frost) is received. The blind/shutter can no longer be operated via other communication objects or by manual operation until the weather alarm has been rescinded. Traveling range limits are not taken into account with weather alarms.

- **Activated - no reaction:** If the blind/shutter is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Activated - up:** The blind/shutter moves UP after a weather alarm is received.
- **Activated - down:** The blind/shutter moves DOWN after a weather alarm is received.
- **Activated - stop:** If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Activated - Position 1...4:** If one of these positions are selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window **A: Positions/Presets**.
- **Activated - individual position:** A freely-definable position can be moved to. The following parameters appear:

Position Height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

- **Deactivated:** In the case of a weather alarm, there is no reaction.

Block

Options: Deactivated
Activated

This parameter enables the function *Disable*. The blind/shutter moves, for example, to a parameterized position or the operation is blocked. Example: The operation of an internal blind/shutter (internal blind or roller blind) is inhibited if the window is open.

- **Activated:** The communication object *Block* is enabled. The following parameter appears.

Position during blocking

Options: No reaction
Up
Down
Stop
Position 1...4
Individual position

This parameter determines the position to be traveled to for the *Block* function.

- **No reaction:** If the blind/shutter is performing a movement, this movement to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Up or Down:** The blind/shutter moves UP or DOWN.
- **Stop:** If the blind/shutter is performing a movement, this movement stops immediately. The outputs are disconnected from the voltage supply. If the blind/shutter is at rest, it will remain unchanged in its position.

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- **Position 1...4:** If one of these positions are selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window **A: Positions/Presets**.
- **Individual position:** A freely-definable position is moved to. The following parameters appear.

Position Height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in the operation mode <i>Control with slat adjustment</i> .

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

- **Deactivated:** In the case of a weather alarm, there is no reaction.

Forced operation (1 bit/2 bit)

Options: Deactivated
Activated (1 bit)
Activated (2 bit)

With the **Forced operation** function, the blind/shutter can be moved in a specific direction via a 1-bit telegram or up or down via 2-bit telegrams and the operation can be disabled. For example, the **Forced operation** function can be used to move blinds upwards if the windows are being cleaned or downwards if the slats are being cleaned. At the same time, the operation of the blind/shutter is disabled to ensure that the cleaning personnel are not endangered by an unexpected movement.

- **Activated (1 bit):** The communication object **Forced operation 1 bit** is enabled. The following parameters appear:

Position Height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in the operation mode <i>Control with slat adjustment</i> .

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

With this parameter, the position (position and slat setting) is set which is moved to as soon as Forced operation (1 bit) has been activated. Operation is disabled. If a telegram with the value 0 is received at this communication object, operation is enabled again.

- **Activated (2 bit):** The communication object **Forced operation 2 Bit** is enabled.

Position on reset of weather alarm, blocking and forced operation

Options: No reaction
Up
Down
Stop
Position 1...4
Individual position
According to object value

This parameter determines the blind/shutter position when rescinding a Weather alarm, Block or Forced operation.

- **No reaction:** If the blind/shutter is performing a movement, this movement to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Up:** The blind/shutter moves UP after a safety function is rescinded.
- **Down:** The shutter/blind moves DOWN after a safety function is rescinded.
- **Stop:** If the blind/shutter is performing a movement, this movement stops immediately. If the shutter/blind is at rest, it will remain unchanged in its position.
- **Position 1...4:** If one of these positions are selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window **A: Positions/Presets**.
- **Individual position:** A freely-definable position is moved to. The following parameters appear:

Position Height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in the operation mode <i>Control with slat adjustment</i> .

ETS parameters and communication objects

These two parameters specify the height or the slat position of the blind/shutter.

Options: 0...100

According to object value: During a safety alarm, incoming KNX telegrams are saved to the following communication objects.

Move to height position [0...255]

Move slats [0...255]

Move to position 1, 2

Move to position 3, 4

Scenes

The status of the output is updated to correspond to the current values of the communication objects, e.g. automatic control is activated after the lifting of a safety alarm. If no new telegrams have been received in the meantime, then the blind/shutter is moved to the position in which it was when the safety alarm occurred.

Note

The set position for reset is only moved to when automatic sun protection is deactivated.

Disable automatic sun protection on reset of safety function

Options: Yes

No

- **No:** After rescinding of a safety function (e.g. wind alarm), automatic sun protection is reactivated.
- **Yes:** After rescinding of a safety function (e.g. wind alarm), automatic sun protection is deactivated.

Order of priority for safety alarm functions

Options: 1. Weather alarm – 2. Block – 3. Forced operation

1.Weather alarm - 2. Forced operation - 3. Block

1.Block - 2. Weather alarm - 3. Forced operation

1.Block - 2. Forced operation - 3. Weather alarm

1.Forced operation - 2. Block - 3. Weather alarm

1.Forced operation - 2. Weather alarm - 3. Block

This parameter determines the sequence of priorities for the safety functions Weather alarms (wind, rain, frost), Block and Forced operation. These functions have a higher priority than all other functions. If one of these functions is activated, the operation of the blind/shutter is disabled. This also applies during manual operation.

A priority must also be defined for safety functions among one another. In this way, the blind/shutter is correctly controlled if more than one security function is activated simultaneously. Forced operation, for example, has priority over a wind alarm when cleaning the windows, so that the cleaning personnel are not hindered by an UP telegram resulting from a wind alarm.

Note

Wind, rain and frost alarms are only activated if in parameter window *Weather alarms*, the communication objects are enabled and linked to the group addresses!

2.4.2 Parameter window A: Drive

General	Detect travel times (Up/Down)	Yes - via detection of end positions
Manual operation	Enable travel detection	Automatically
Weather alarms	Delete saved travel times after Download	No
A: General	Pause on change in direct. in ms (see technical data of drive!) 50...10,000	500
A: Safety/Weather	Delay times for drive	Standard
A: Drive	Difference between coasting delay and start-up delay in ms [-128..127]	0
A: Blinds/Shutter	Minimum run time for drive in ms [10...255]	50
A: Functions		
A: Status messages		
B: General		
B: Safety/Weather		
B: Drive		
B: Blinds/Shutter		
B: Functions		
B: Status messages		

ETS parameters and communication objects

UP time in s [0...6,000]

DOWN time in s [0...6,000]

Options: 0...60...6,000 s

These parameters are used to input the previously measured times, which the blind/shutter requires for a complete movement from the lower end position to the upper end position (UP travel time) and from the upper end position to the lower end position (DOWN travel time). Physical and weathering conditions (frost, UV radiation, long-term use or use of heavy blind/shutter types) mean that, under certain circumstances, differing total travel times may result for a complete movement from the lower end position to the upper end position (UP) and from the upper end position to the lower end position (DOWN). The total travel times (UP/DOWN) can be set separately, allowing accurate positioning of the blind/shutter.

Disconnect output from power after

Options: End position, no overflow
 End position + 2 % overflow
 End position + 5 % overflow
 End position + 10 % overflow
 End position + 20 % overflow
Total travel time + 10 % overflow

After the end position has been reached (as the very top or bottom), the drive will switch off independently. A so-called overflow travel time can be set to ensure that the output safely reaches the end position. The voltage still remains applied for a short time to move the drive to a defined end position in a controlled manner. The basis for the detection of the end position is the position calculated internally in the device.

Enable communication object

"Trigger reference movement" 1 bit

Options: Yes
No

Reference movements are triggered using this communication object.

- **Yes:** The communication object *Trigger reference movement* is enabled. Slight inaccuracies can occur over longer periods in position detection due to temperature variants and aging processes. For this reason, the upper and the lower end position can be used for clear specification of the current position during position detection. Every time the blind/shutter is in the upper or the lower end position, the position is updated in the memory of the device. If the end positions are not reached in normal operation, a reference movement to the very top or very bottom can be performed via a telegram. After a reference movement, the blind/shutter remains in the reference position or moves back to the position before the reference movement, according to the parameterization. The following parameter appears:

Position after reference movement

Options: No reaction, remain in reference position
 Move to position before reference movement

This parameter defines how the output should respond after a reference movement.

- **No reaction, remain in reference position:** The blind/shutter remains in the reference position at the very top or very bottom.
- **Move to position before reference movement:** The blind/shutter moves to the position it had before the reference movement. During the reference movement, incoming STOP or step telegrams are ignored and not executed after the reference position has been reached. If automatic control was activated for the blind/shutter before the reference movement, then this will be continued after the reference position has been reached.

Note

A reference movement is also triggered during active automatic control and interrupts this for the duration of the reference movement.

After completion of the reference movement, the parameterized *Position after reference movement* is executed first. When a new automatic telegram is received, the blind/shutter moves to the automatic position.

**Pause on change in direct. in ms
 (see technical data of drive!) 50...10,000**

Options: 50...500...10,000

This parameter defines the pause to change direction of the drive in milliseconds.

Caution

The technical data of the drive manufacturer must always be observed!

Delay times for drive

Options: Standard
 User-defined

Some drives do not provide the full power immediately but only after a start-up delay of a few milliseconds. Other drives continue to run on for a few milliseconds (coasting delay). For some applications, it may be necessary to compensate delay times when starting and stopping the drive, e.g. blinds/shutters must be positioned exactly.

Note

These parameters must only be entered if you require an even more exact positioning of the blind/shutter. Generally, the basic parameters are adequate to ensure correct operation.

ETS parameters and communication objects

- **Standard:** In this setting, the delay time (0 ms) cannot be changed.
- **User-defined:** The following parameters appear:

Difference between coasting delay and start-up delay in ms [- 128..127]

Options: -128...0...127

This parameter defines the coasting delay and start-up delay times of the drive in milliseconds. If the values for the start-up and coasting delays of the drive are known or have been determined, then the difference can be calculated. The difference is calculated as follows:

Difference = Coasting delay - start-up delay

Caution

The technical data of the drive manufacturer must always be observed!

Minimum run time for drive in ms [10...255]

Options: 10...50...255

This parameter defines the minimum run time of the drive.

Caution

The technical data of the drive manufacturer must always be observed!

2.4.3 Parameter window A: Blinds/shutter

In this parameter window, specific settings for the blind/shutter to be controlled are undertaken.

Note

All the functions and parameters, which relate to settings for slats in the following section, are only available in the operation mode *Control with slat adjustment*.

<ul style="list-style-type: none"> General Manual operation Weather alarms A: General A: Safety/Weather A: Drive A: Blinds/Shutter A: Functions A: Status messages B: General B: Safety/Weather B: Drive B: Blinds/Shutter B: Functions B: Status messages C: General C: Safety/Weather C: Drive C: Blinds/Shutter C: Functions C: Status messages D: General D: Safety/Weather D: Drive 	<p>Determine times for slat</p> <p>Via duration of slat adjustment (step)</p> <p>Duration of slat adjustment (step) in ms [50...1,000] <input type="text" value="200"/></p> <p>Number of slat adjustments (from 0% = open to 100% = closed) <input type="text" value="7"/></p> <p>Limit step commands to number of slat adjustments <input type="text" value="Yes"/></p> <p>Total turning of slats after move DOWN <input type="text" value="No"/></p> <p>Position of slat after arriving on lower end position (100% = disabled) <input type="text" value="100"/></p> <p>Limit travelling range <input type="text" value="No"/></p> <p>Set dead times</p> <p>Dead time blinds/shutter from bottom until moving up in ms [0...5,000] <input type="text" value="0"/></p> <p>Dead time of slat from 100% closed until slat turn in ms [0...5,000] <input type="text" value="0"/></p> <p>Slippage of slat on change of direction in ms [0...5,000] <input type="text" value="0"/></p>
---	--

Determine times for slat

Options: *Via duration of slat adjustment (step)*
Via total duration for slat turning

- *Via duration of slat adjustment (step)*: The following parameters appear:

ETS parameters and communication objects

Duration of slat adjustment (step) in ms [50...1,000]

Options: 50...200...1,000 ms

This parameter specifies the time during which the slats of the blind/shutter, e.g. blind, open or close in each slat adjustment.

Number of slat adjustments (from 0% = open to 100% = closed)

Options: 1...7...60

This parameter defines the number of slat adjustments (steps) which are required to tilt the slats from fully closed to fully open. The appropriate adjustment angle for each slat adjustment is calculated from the duration, slat adjustment and the number of the slat adjustments.

- **Via total duration for slat turning:** This method for determining the slat adjustment times is particularly suitable when high blind/shutter control accuracy is required, e.g. for slat adjustment. Firstly, the time must be determined which the slat requires to tilt from fully closed (100 %) to fully open (0 %). When the total slat turning duration has been determined, only the number required slat adjustments for a complete slat tilt from closed to open must be input. The device calculates the slat adjustment duration automatically.

Example	
Total duration for slat turning:	1500 ms
Number of slat adjustments:	7
Time for slat adjustment (stepped) =	1500 ms / 7 passi ~ 214 ms

Note

As times under 50 ms cannot be processed, the calculated time (quotient of the total duration for slat turning and the number of slat adjustments) must always be greater than 50 ms.

The following parameters appear:

Duration to turn slat from 0% - 100% in ms [50...60,000]

Options: 50...1500...60,000

The measured total duration for slat turning is entered here. The time must be determined as precisely as possible to achieve the best possible result for slat position.

Number of slat adjustments (from 0% = open to 100% = closed)

Options: 1...7...60

This parameter defines the number of slat adjustments which are required to tilt the slats from fully closed to fully open. The appropriate duration for a slat adjustment is calculated from the duration of a complete slat turn and the desired number of slat adjustments.

Limit step commands to number of slat adjustments

Options: Yes
No

This parameter specifies whether step commands are limited to a set number of slat adjustments or whether than can always be executed.

- **Yes:** Only that number of slat adjustments or step commands can be executed as were set in the parameter *Number of slat adjustments* [1...60].
- **No:** The slat adjustments and step commands of the blind/shutter can be controlled without restriction.

Total turning of slats after move DOWN

Options: Yes
No

This parameter can be used to release slats which have become stuck or got caught during movement. This functions is primarily used for slats in the pane cavity of a window.

- **Yes:** After a DOWN movement, the slats are turned fully once (CLOSED – OPEN – CLOSED). If a DOWN movement is interrupted by a STOP command, no turn is executed.
- **No:** No action occurs after a DOWN movement.

Position of slat after arriving on lower end position (100% = disabled)

Options: 100 %
...
0 %

This parameter specifies the slat position the blind/shutter is to assume on reaching the lower end position.

When blind/shutter has reached to the lower end position, the slats are normally closed.

- **100 %:** The slats are CLOSED.
- **... %:** The slats are moved to the appropriate intermediate position.

ETS parameters and communication objects

- 0 %: The slats are completely OPEN.

Limit travelling range

Options: No

Via object "Blinds/shutter up-down limited"

Via object "Enable limitation"

For certain applications, the traveling range of the blind/shutter can be limited for the user.

Note

The restriction only works with a telegram to the communication object Blinds/shutter up-down limited and with a scene telegram.

The restriction does not apply to:

- Reaction on bus voltage failure, recovery, download and ETS reset
- Safety functions (Weather alarms, Block and Forced operation)
- Manual operation
- Automatic telegrams
- Parameter setting *Move to position via lower/upper end position*
- Reference movement or travel detection

- Via object "Blinds/shutter up-down limited": The communication object *Blinds/shutter up-down limited* is enabled. The following parameters appear:

Upper limit in % [0...100]

(0% = top; 100% = bottom)

Lower limit in % [0...100]

(0% = top; 100% = bottom)

Options: 0...100

These parameters define the upper and lower limit of the travel range.

- Via object "Enable limitation": The communication object *Enable limitation* is enabled. If the restriction was activated via the communication object, then the blind/shutter will move within the specified limits. The following parameters appear:

Upper limit in % [0...100]

(0% = top; 100% = bottom)

Options: 0...100 %

This parameter specifies the upper limit of the travel range.

Upper limit valid for automatic commands

Options: Yes

No

- **Yes:** The input upper limit of the blind/shutter is taken into account and also executed in the case of automatic telegrams.
- **No:** The upper limit of the blind/shutter is not taken into account in the case of automatic telegrams. The blind/shutter moves to the calculated position.

Upper limit valid for direct commands

Options: Yes

No

- **Yes:** The input upper limit of the blind/shutter is taken into account and also executed in the case of direct telegrams.
- **No:** The upper limit of the blind/shutter is not taken into account in the case of direct telegrams.

Lower limit in % [0...100]

(0% = top; 100% = bottom)

Options: 0...100

The lower limit of the travel range is specified here.

Lower limit valid for automatic commands

Options: Yes

No

- **Yes:** The input lower limit of the blind/shutter is taken into account and also executed in the case of automatic telegrams.
- **No:** The lower limit of the blind/shutter is not taken into account in the case of automatic telegrams. The blind/shutter moves to the calculated position.

Lower limit valid for direct commands

Options: Yes

No

ETS parameters and communication objects

- **Yes:** The input lower limit of the blind/shutter is taken into account and also executed in the case of direct telegrams.
- **No:** The lower limit of the blind/shutter is not taken into account in the case of direct telegrams.

Set dead times

Options: Standard
User-defined

- **Standard:** The dead times are deactivated.
- **User-defined:** On some sun protection systems, dead times of the blind/shutter mechanics may occur. They can be caused by aging processes of the blind/shutter, e.g. mechanical load. In such cases, it may no longer be possible to adjust the blind/shutter to precise positions. The following parameters appear for the compensation of various dead times of the blind/shutter.

Dead time blinds/shutter from bottom until moving up in ms [0...5,000]

Options: 0...5,000

This parameter specifies the compensation time which the blind/shutter requires after a travel telegram until the first upward movement.

Examples

The slatted curtain is in the lower end position (= 100 % down). The travel telegram **UP** is received. The motor shaft begins turning. However, the slatted curtain remains in its lower end position until the slatted curtain begins the UP movement after a time X (= dead time).

Dead time of slat from 100% closed until slat turn in ms [0...5,000]

Note

This parameter is available exclusively in the operation mode *Control with slat adjustment*.

Options: 0...5,000

This parameter specifies the compensation time, which is required after a slat adjustment telegram from completely closed (= 100 %) to the first tilt/adjustment of the slat.

Examples

The slats are completely closed (= 100 %). The telegram **Slat adjustment OPEN** is received. The motor shaft begins turning. However, the slat remains closed until the slat begins the tilt/adjustment after a time X (= dead time).

Slippage of slat on change of direction in ms [0...5,000]

Options: 0...5,000 ms

This parameters specifies the time period required for the slat slippage on changing direction, in order to position the slats exactly.

Note

This parameter is available exclusively in the operation mode *Control with slat adjustment*.

Examples

The slats are in the horizontal position (50 %). The telegram **Slat adjustment CLOSE** is received. The slat closes to the 60 % position. After this, a **Slat adjustment OPEN** (= change of direction) telegram arrives. The slats position themselves in the 55 % position, but should be in an exactly horizontal position (50 %). Thus, adjusting the parameter compensates for the slat slippage on changing direction, in order to position the slats exactly.

Slippage of blinds/shutter on change of direction in ms [0...5,000]

Note

This parameter is available exclusively in the operation mode *Control without slat adjustment*.

Options: 0...5,000

This parameters specifies the time period required for the slippage of the blind/shutter after a change of direction.

Tensioning blinds/shutter or slot positioning

Note

This parameter is available exclusively in the operation mode *Control without slat adjustment*.

ETS parameters and communication objects

Options: No
 After each DOWN movement
 Only after reaching lower end position

This function is used to tauten or tension textile blinds/shutters (e.g. sheet of an articulated arm awning) or to adjust the slot position (e.g. light or ventilation slots) in slatted curtains. In so doing, the blind/shutter is stopped after the end of a DOWN movement and moved in the opposite direction for a parameterizable period of time.

- **No:** The function is deactivated.
- **After each DOWN movement:** The tensioning or slot positioning is executed after each downward movement, also during position movements. A further parameter appears.
- **Only after reaching lower end position:** The tensioning or slot positioning is only executed when the blind/shutter is moving to the lower end position. The following parameter appears:

Time for tensioning/slot positioning in ms [0...5,000]

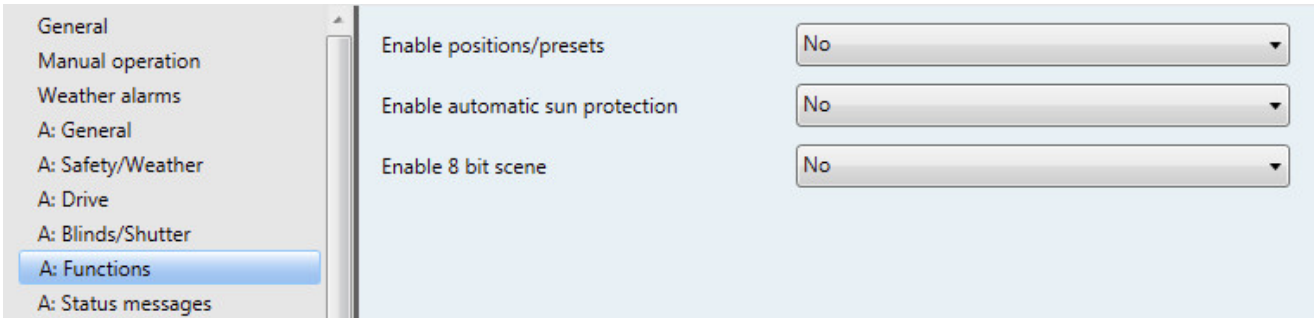
Options: 0...5,000

This parameter is used to set the time during which the blind/shutter is to be moved in the opposite direction after a DOWN movement.

Note	
Tensioning only takes place after a DOWN telegram. When it is activated, then tensioning/slot positioning is triggered by the following types of travel telegrams:	
<ul style="list-style-type: none"> • Direct telegrams (DOWN, Position, Scene...) • Automatic telegrams • Manual telegrams via the manual operation buttons • Safety telegram, e.g. Weather alarm, Forced operation 	
Here, the above-mentioned travel telegrams must last longer than the time set for tensioning/slot positioning.	
The length of tensioning/slot positioning must be shorter than the determined or parameterized total travel time for the DOWN movement.	
The tensioning/slot positioning time influences the position calculation and the status communication objects. The value for the current position after tensioning/slot positioning is fed back. Thus, in the case of a travel telegram during active cloth tensioning/slot positioning, a position value smaller than the length of the tensioning is fed back.	
Example:	
Total travel time DOWN in s	60 s \triangleq 100 %
Position telegram in %	50% \triangleq 30 s
Time for tensioning/slot positioning in s	0,5 s \triangleq [(100 % x 0,5 s / 60 s)] = 0,8 %
Position feedback in %	= 50 % - 0,8 = 49.2 %

2.4.4 Parameter window A: Functions

In this parameter window, the functions *Positions/presets*, *Automatic sun protection* and 8-bit scene are enabled for each output. A separate parameter window appears for each function.



Enable positions/presets

Options: Yes
No

- **Yes:** The parameter window *A: Position/presets*, is enabled.

Enable automatic sun protection

Options: Yes
No

- **Yes:** The parameter window *A: Automatic sun protection*, and the following communication objects are enabled:
- *Activation of autom. control*
- *Sun*

ETS parameters and communication objects

- *Move to height for sun [0...255]*
- *Adjust slat for sun [0...255]*

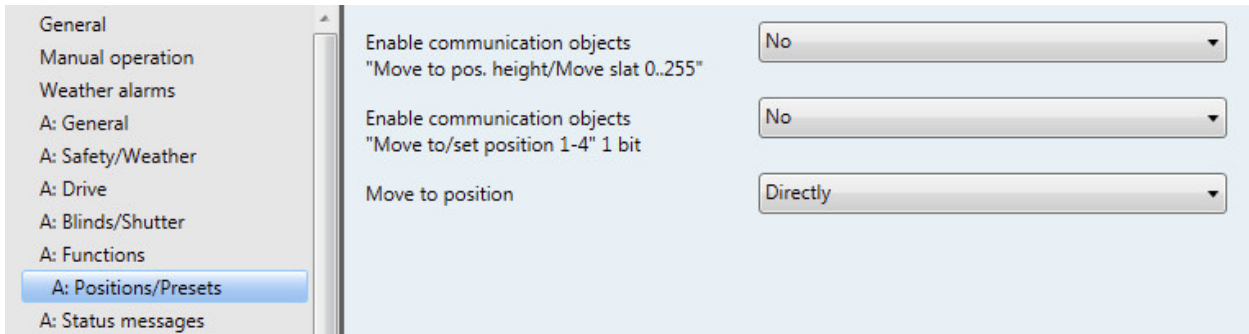
Enable 8 bit scene

Options: Yes
No

- **Yes:** The parameter window *A: Scene*, and the communication object *8 bit scene* are enabled.

2.4.4.1 Parameter window *A: Positions/Presets*

The preset positions are set in this parameter window. In addition, the way in which the positions are to be moved to are also set here.



Enable communication objects

"Move to pos. height/Move slat [0...255]"

Options: Yes
No

The blind/shutter can be moved in a targeted manner to any desired position and the slats positioned in any slat position via two separate communication objects. Both communication objects are 1-byte communication objects [0...255].

The following applies to the position of the blind/shutter: The value 0 corresponds to the top position (0 %). The value 255 corresponds to the bottom position (100 %).

The following applies to the slat position: The value 0 corresponds to the open slat position (0 %). The value 255 corresponds to the slat position closed (100 %).

Some of these positions are dependent on the appropriate setting of the drive.

The calculation of the slat position is based on the duration and number of steps.

The calculation of the height is based on the total travel time (via manual measurement and input or via automatic travel detection) of the blind/shutter.

- **Yes:** The communication objects *Move to pos. height [0...255]* and *Move slats [0...255]* are enabled.

Enable communication objects

"Move to/set position 1-4" 1 bit

Options: Yes
No

Up to 4 preset positions can be set for each output. 2 preset positions (1, 2 or 3, 4) are each moved to using a group address with the values 0 or 1.

This function is particularly suitable for repeated movements to preferred blind/shutter positions, in conjunction with 1 bit telegrams.

The saved preset positions can be very easily changed without programming the device via the KNX. The blinds/shutters must be brought to the new required target position. This new position is applied to the device memory via the communication objects *Set position 1, 2* and *3, 4* with the values 0 and 1.

Recall and saving of a preset position can be executed with a single push button. For example, a position is recalled with a short button push and the current position is saved as the new preset position with a long button push.

- **Yes:** The communication objects *Move to position 1, 2*, *Move to position 3, 4*, *Set position 1, 2* and *Set position 3, 4* are enabled. The following parameters also appear:

ETS parameters and communication objects

Overwrite position values (presets) during download

Options: Yes
No

- **Yes:** The preset positions are overwritten on downloading with the settings in the application.
- **No:** The preset positions previously saved (see above) remain intact on redownloading the application and are not overwritten with the preset values.

Note

If individual preset values have been set during current operation by a user, the parameter should then be set to No to ensure that the individual positions are retained!

Position 1: Height in % [0...100]
(0% = top; 100% = bottom)

Position 2: Height in % [0...100]
(0% = top; 100% = bottom)

Position 3: Height in % [0...100]
(0% = top; 100% = bottom)

Position 4: Height in % [0...100]
(0% = top; 100% = bottom)

Options: 0..20..40..60..80..100

These parameters specify the blind/shutter heights for traveling to a preset position.

Position 1: Slat in % [0...100]
(0% = open; 100% = closed)

Position 2: Slat in % [0...100]
(0% = open; 100% = closed)

Position 3: Slat in % [0...100]
(0% = open; 100% = closed)

Position 4: Slat in % [0...100]
(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

Options: 0...20...40...60...80...100

These parameters specify the slat settings for traveling to a preset position.

Move to position

Options: Directly
Indirectly via upper end position
Indirectly via lower end position
Indirectly via shortest way

- **Directly:** The blind/shutter moves from the current position directly to the new target position.
- **Indirectly via upper or lower end position:** The blind/shutter firstly moves to the very top or the very bottom and only then to the target position.
- **Indirectly via shortest path:** The blind/shutter firstly moves to the very top or very bottom, depending on which of the two paths is the shorter between the current position and the target position, and then moves to the target position.

ETS parameters and communication objects

2.4.4.2 Parameter window A: Automatic Sun Protection

In this parameter window, all the settings for the automatic sun protection are undertaken.

General	Deactivation of automatic control	Via object "Activation" and move command
Manual operation	Automatic reactivation of automatic control	Deactivated
Weather alarms	Toggling to automatic control	Enabled
A: General	Toggling to direct control	Enabled
A: Safety/Weather	Position for sun = 1 (sun)	Down
A: Drive	Position for sun = 0 (no sun)	Up
A: Blinds/Shutter	Delay for sun = 1 in s [0...6,000]	0
A: Functions	Delay for sun = 0 in s [0...6,000]	0
A: Automatic Sun Protection	Read activated automatic objects after bus voltage recovery	No
A: Status messages	Enable heating/cooling automatic	No
B: General		
B: Safety/Weather		
B: Drive		
B: Blinds/Shutter		
B: Functions		
B: Status messages		
C: General		
C: Safety/Weather		
C: Drive		

Together with other KNX components (in particular with the Shutter Control Unit JSB/S), the blind and roller shutter actuator can be used to establish easy-to-use automatic sun protection control. Automatic control can be activated individually for each output.

Note

These are direct communication objects:

- Move blinds/shutter up-down
- Slat adjustment/Stop up-down
- Blinds/shutter up-down limited
- Move to position [0...255]
- Move slat [0...255]
- Move to position 1, 2
- Move to position 3, 4
- Scene

If travel detection or a reference movement is triggered during active automatic control, it will be undertaken.

Deactivation of automatic control

Options: Via object "Activation"
Via object "Activation" and move command

- **Via object "Activation"**: The automatic control is activated = 1 and deactivated = 0 exclusively by a telegram to the communication object **Activation of autom. control**. If automatic control is activated, the incoming telegrams to the direct communication objects are not executed. After deactivation of automatic control, the blind/shutter remains in its current position and can be controlled again via the direct communication objects.
- **Via object "Activation" and move command**: Incoming telegrams to direct communication objects also lead to deactivation of automatic control. The following parameter appears:

Automatic reactivation of automatic control

Options: Deactivated
Activated

If automatic control was deactivated via one of the direct communication objects, it is possible to reactivate automatic control automatically after a parameterized time.

- **Activated**: The following parameter appears.

Time to reactivate autom. control automatically in min. [10...6,000]

Options: 10...300...6.000

Note

A change of the parameter value will only become active after the next deactivation of automatic control by a direct communication object.

ETS parameters and communication objects

Toggling to automatic control

Toggling to direct control

Options: Enabled

Disable/enable via object

This parameter determines how the switchover to automatic control or direct control is enabled or whether it should be enabled/disabled via an additional communication object.

- **Disable/enable via object:** The communication objects *Disable/enable autom. control* and *Disable/enable direct control* are enabled.

Position for sun = 1 (sun)

Position for sun = 0 (no sun)

Options: No reaction

Up

Down

Stop

Position 1-4

Individual position

Receive position via object

Receive height and slat via object1

Receive only slat via object1

Receive position via object2

Deactivated

¹ Only in the operation mode Control with slat adjustment

² Only in the operation mode Control without slat adjustment

These parameters are used to set the reaction for the communication object Sun = 1 (sun) or for the communication object 0 (no sun) in automatic operation.

- **No reaction:** Any movement currently being undertaken is completed.
- **Up or Down:** The blind/shutter moves up or down.
- **Stop:** Any movement currently being undertaken by the blind/shutter is stopped immediately. The outputs are disconnected from the voltage supply.
- **Position 1-4:** If one of these positions are selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window **A: Positions/Presets**.
- **Individual position:** A freely-definable position is set on Sun = 1 or 0. The following parameters appear:

Position height in %

(0% = top; 100% = bottom)

Position Slat in % [0...100]

(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

These parameters specify the height or the slat position of the blind/shutter.

Options: 0...100

- **Receive position and slat via object:** This option is suitable particularly in conjunction with the Shutter Control Unit KNX.

Note

This parameter is available exclusively in the operation mode *Control with slat adjustment*.

- **Receive only slat via object:** With activated automatic function and Sun = 1, only the value on the communication object *Adjust slat for sun [0...255]* is evaluated.

Note

This parameter is available exclusively in the operation mode *Control with slat adjustment*.

Note

A slat adjustment is not carried out if the blind/shutter is in its upper end position.

- **Receive position via object:** The position of the blind/shutter is received via the communication object *Adjust slat for sun [0...255]*.

Note

This parameter is available exclusively in the operation mode *Control without slat adjustment*.

Delay for sun = 1

in s [0...6,000]

Delay for sun = 0

in s [0...6,000]

Options: 0...6,000

ETS parameters and communication objects

This parameter defines the reaction to the communication object *Sun*.

Note

If, in the parameter window General, a time has been entered in the parameter Time-delayed switching of drives, this time must be added to the delay times for Sun = 1 or 0.

The delay times can also be set in the brightness sensor and in the Shutter Control Unit. It must be noted that the delay times can add up in this way.

Read activated automatic objects after bus voltage recovery

Options: Yes

No

- Yes: After bus voltage recovery, the values required for automatic control can be read out via the KNX. This updates the values of the communication objects.

Note

The Read flag must be set on the communication objects to be read.

Enable automatic heating/cooling

Options: Yes

No

This parameter enables the automatic HEATING/COOLING control.

- Yes: The communication objects *Heating*, *Cooling*, *Presence* and *Receive room temperature* are enabled. The following parameters appear.

Delay for presence = 1 in s [0...6,000]

Delay for presence = 0 in s [0...6,000]

Options: 0...6,000

Automatic heating / cooling is an extension of sun protection control and can only be activated together with automatic control. Automatic sun protection and automatic heating/cooling is toggled via the communication object *Presence*, e.g. via a presence detector.

To prevent the blind/shutter from continuously moving up and down as soon as a person enters or leaves the room, the reaction of the communication object *Presence* can be delayed. Thus the blind/shutter moves, for example, to the sun protection position when the room is entered and automatic HEATING/COOLING is only activated after a delay when the room is left.

Position for heating = 1 and sun = 1

Position for heating = 1 and sun = 0

Position for cooling = 1 and sun = 1

Position for cooling = 1 and sun = 0

Options: No reaction

Up

Down

Stop

Position 1...4

Individual position

This parameter sets the response for Sun = 1 (sun) or for Sun = 0 (no sun) during the heating/cooling phase.

The phases HEATING = 1 or COOLING = 1 can, for example, be triggered by an external temperature sensor, room thermostat or by a yearly clock timer.

If both the HEATING and COOLING operations are activated simultaneously or neither operation mode is activated, this is an undefined operating condition. The blind/shutter is automatically controlled until then using automatic sun protection.

Note

If the system should only use automatic heating/cooling, the communication object *Presence* may not be linked to a group address. This means that the communication object automatically has the default value 0. Automatic heating/cooling is immediately activated when automatic control is activated via the communication object *Activation of autom. control*.

- **No reaction:** If the blind/shutter is performing a movement, this movement to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Up:** The blind/shutter moves up.
- **Down:** The blind/shutter moves down.
- **Stop:** Any movement currently being undertaken by the blind/shutter is stopped immediately. The outputs are disconnected from the voltage supply.
- **Position 1...4:** If one of these positions are selected, the blind/shutter moves to a preset position. The blind/shutter height and slat setting of the corresponding position can be set in parameter window A: *Positions/Presets*.

ETS parameters and communication objects

- **Individual position:** A freely definable position is set for Sun = 1. The following parameters appear:

Position height in %

(0% = top; 100% = bottom)

Position Slat in % [0...100]

(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

Use overheat control

Options: Yes

No

Overheat control prevents the heating up of a room during an absence. During the heating period, rooms with large glass windows can heat up quickly in strong sunlight, even if the external temperature is low. Overheat control is used to prevent this and save possible cooling energy.

- **Yes:** The communication object *Receive room temperature* and the following parameters appear:

Upper threshold value

room temperature in °C [21...50]

Options: 21...24...50

If the temperature value set here is reached or exceeded, then the blind/shutter moves to a parameterizable position, e.g. DOWN. If the temperature value is undershot by minus 3 Kelvin, then overheat control is terminated. The blind/shutter is moved to the parameterized position, according to the values of the communication objects *Heating* and *Sun*.

**Position at upper threshold value
and sun = 1**

Options: Down

Position 1...4

Individual position

The blind/shutter moves to the position input here as soon as the specified threshold value has been exceeded.

- **Down:** If the upper room temperature threshold value is exceeded or if Sun = 1, the blind/shutter will move down.
- **Position 1...4:** If the upper room temperature threshold value is exceeded or if Sun = 1, the blind/shutter will move to the position which can be set in the parameter window *A: Positions/presets*.
- **Individual position:** A freely definable position can be set for when the upper room temperature threshold value is exceeded or for when Sun = 1. The following parameters appear:

Position height in % [0...100]

(0% = top; 100% = bottom)

Position slat in % [0...100]

(0% = open; 100% = closed)

Options: 0...100

These parameters specify the height or the slat position of the blind/shutter.

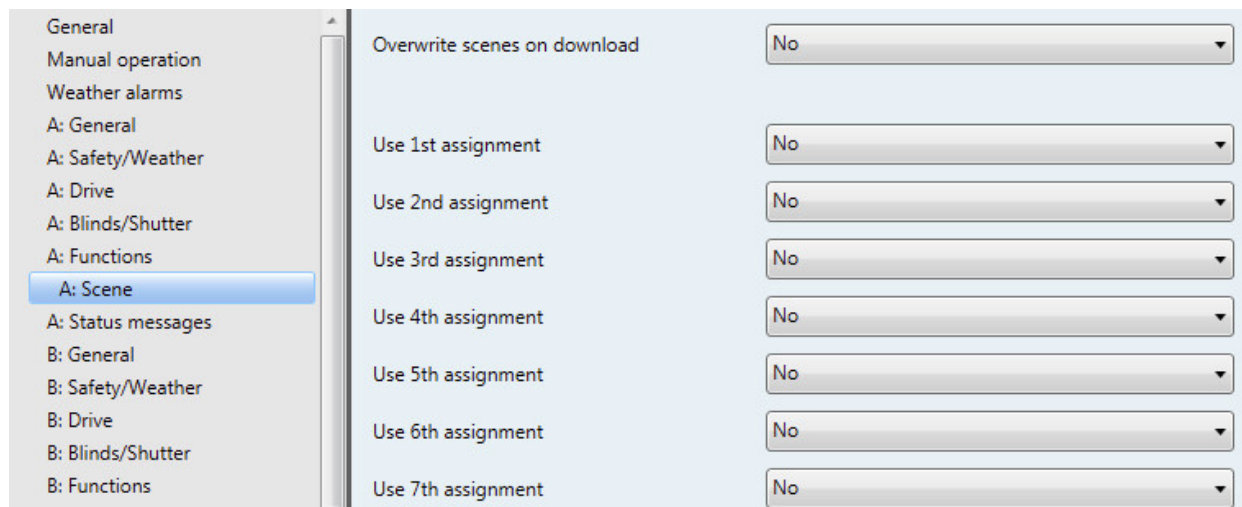
Important

If HEATING/COOLING = 1 or HEATING/COOLING = 0 (undefined operating condition), then the output is only controlled by the automatic sun protection.

ETS parameters and communication objects

2.4.4.3 Parameter window A: Scene

In this parameter window, all settings for the 8 bit scene are undertaken. Each output can be allocated to up to 18 different scenes



Overwrite scenes on download

Options: Yes
No

This parameter specifies the reaction of the set scenes to a download.

- **Yes:** During a download, the scenes are overwritten with the parameterized scene values.
- **No:** The parameterized scene values are not applied during a download.

Use 1st assignment

...

Use 18th assignment

Options: Yes
No

With the scene function, up to 64 different scenes are managed via a single group address. With this group address, all the devices integrated into a scene are linked via a 1-byte communication object. The following information is contained in a telegram:

- Number of the scene (1...64)
- Telegram: *Recall scene* or *Save scene*

Each blind/shutter can be integrated in up to 18 scenes. Thus, for example, all the roller shutters can be raised in the morning via a scene and lowered in the evenings or blinds/shutters can be integrated into lighting scenes.

If a telegram is received at the communication object Scene, then the saved scene position is moved to by all the outputs assigned to the sent scene number, or the current position saved as the new scene position.

- **Yes:** The following parameters appear.

Assignment to scene number 1...64

Options: Scene No. 1...Scene No. 64

In this parameter, the output is assigned to a scene number (1...64). As soon as the device a telegram with this scene number at the communication object *8 bit scene* (No. x), it will recall the corresponding scene.

- **Scene No. A:** This parameter assigns the output to a scene number.

Position height in % [0...100]
(0% = top; 100% = bottom)

Position Slat in % [0...100]
(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in the operation mode *Control with slat adjustment*.

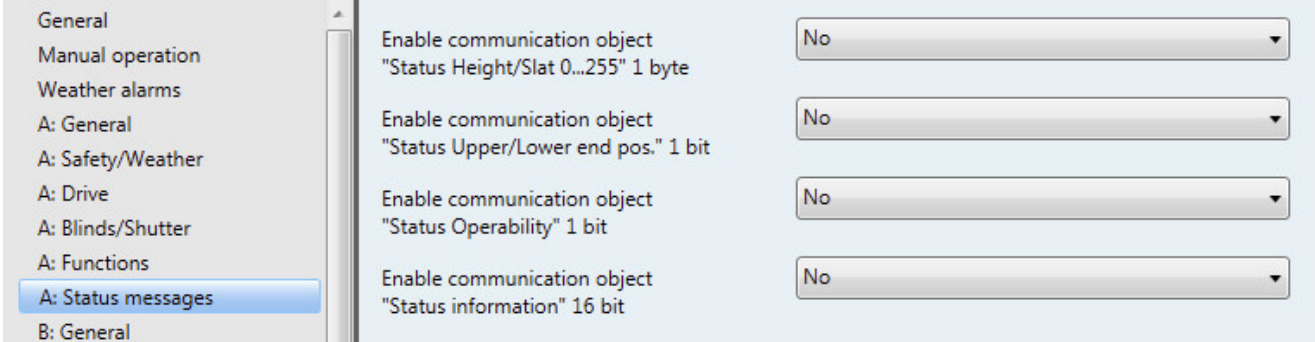
Options: 0...100

These parameters specify the height or the slat position to which the blind/shutter should move when the appropriate scene is recalled.

ETS parameters and communication objects

2.4.5 Parameter window A: Status messages

Settings for the status messages and their send reaction are undertaken in this parameter window.



Enable communication object

"Status Height/slat [0...255]" 1 byte

Options: Yes
No

The output sends the relative position of the blind/shutter and the slat position to two separate communication objects, each as a 1-byte value (0...255). The following applies to the position of the blind/shutter: The value 0 corresponds to the top position (0 %). The value 255 corresponds to the bottom position (100 %). The following applies to the slat position: The value 0 corresponds to the open slat position (0 %). The value 255 corresponds to the slat position closed (100 %).

- **Yes:** The communication objects *Status Height [0...255]* and *Status Slat [0...255]* (only in the operation mode *Control with slat adjustment*) are enabled. The following parameter *appears*:

Send object value

Options: No, update only
On change
On request
On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

Enable communication object

"Status Upper/Lower end pos." 1 bit

Options: Yes
No

The output sends the information as to whether the blind/shutter is in the upper or lower end position to two separate communication objects. If the information is sent to both communication objects stating that the respective end position has not been reached, the blind/shutter is in an intermediate position.

This function is particularly suitable for an additional logic operation, in order to mutually interlock individual outputs. For example, an awning may not move if the window is opened and, in turn, the window may also not be opened by a drive if the awning is extended.

- **Yes:** The communication objects *Status Upper end position* and *Status Lower end position* are enabled. The following parameter appears:

Send object value

Options: No, update only
On change
On request
On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

Enable communication object

"Status Operability" 1 bit

Options: Yes
No

This function is particularly suitable to indicate to the user via an LED on the push button that the blind/shutter cannot currently be operated via the direct communication objects (e.g. UP, DOWN...) and that automatic control cannot be activated.

ETS parameters and communication objects

Operation is blocked if

- a safety function was activated, e.g. Weather alarm, Disable or Forced operation
- manual operation is active
- direct and automatic operation are disabled via communication objects
- **Yes:** The communication object *Status Operability* is enabled. The following parameter appears:

Send object value

Options: No, update only

On change
On request
On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

Enable communication object

"Status information" 16 bit

Options: Yes

No

This parameter enables a 16-bit communication object, which can be used to read out, send or poll additional status information.

- **Yes:** The communication object *Status information* is enabled. The following parameter appears:

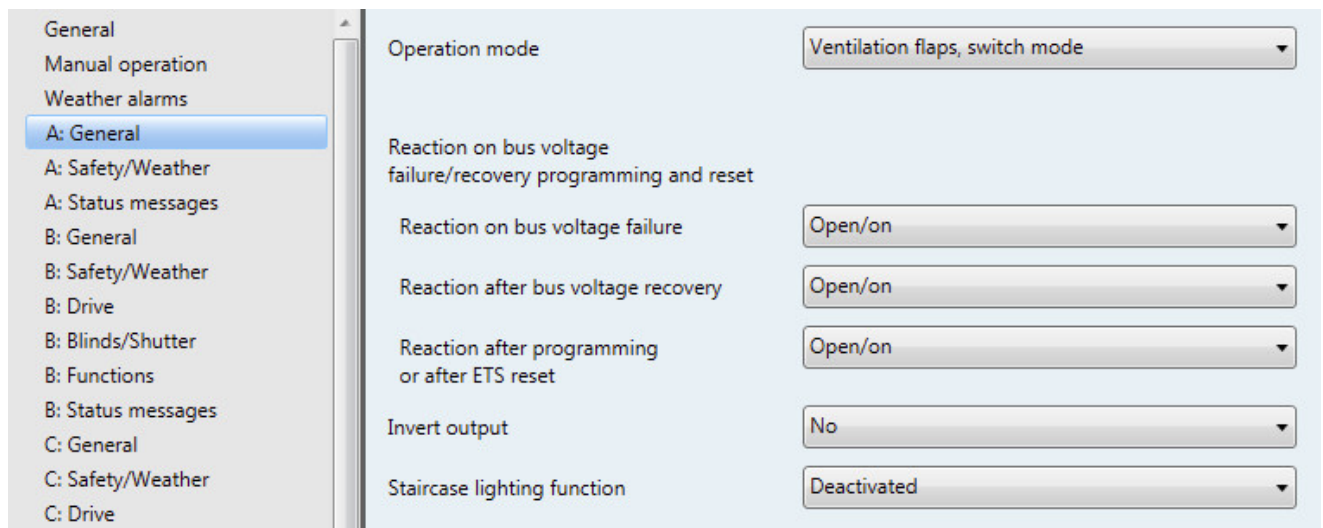
Send object value

Options: No, update only

On change
On request
On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

2.4.6 Parameter Operation mode: *Ventilation flaps, switch mode*



The screenshot shows a software interface for configuring ETS parameters. On the left is a sidebar menu with categories: General, Manual operation, Weather alarms, A: General (selected), A: Safety/Weather, A: Status messages, B: General, B: Safety/Weather, B: Drive, B: Blinds/Shutter, B: Functions, B: Status messages, C: General, C: Safety/Weather, and C: Drive. The main area displays the 'Operation mode' parameter set to 'Ventilation flaps, switch mode'. Below this are four sub-parameters, each with a dropdown menu: 'Reaction on bus voltage failure/recovery programming and reset' (Open/on), 'Reaction on bus voltage failure' (Open/on), 'Reaction after bus voltage recovery' (Open/on), and 'Reaction after programming or after ETS reset' (Open/on). At the bottom are 'Invert output' (No) and 'Staircase lighting function' (Deactivated).

Operation mode

Options: Control with slat adjustment
Control without slat adjustment
Ventilation flaps, switch mode

This parameter defines the operating mode of the output. The communication objects and the parameters for the respective outputs differ slightly depending on the operation mode.

ETS parameters and communication objects

Note

In the operation mode *Ventilation flaps, switch mode*, there is a fixed pause on changing direction of 100 ms on each output for switch operations. Observe the technical data of the drive manufacturer!

- *Ventilation flaps, switch mode*: The following parameters appear:

Reaction on bus voltage failure

Reaction after bus voltage recovery

**Reaction after programming
or after ETS reset**

Options: No reaction
Open/on
Close/off

These parameters determine the response to a bus voltage failure, bus voltage recovery or after a download and ETS reset.

- *No reaction*: The output contacts remain in their current position.
- *Open/on*: The output contact (terminal 1, 3, 6, 8 or 11, 13, 16, 18) closes. The ventilation flap is opened and connected consumers switched on.

Note

If there is a bus voltage failure, the output remains switched on, even if the function *Staircase lighting* is activated.

After bus voltage recovery and during an active Staircase lighting function, the output switches off after the parameterized duration or opening time has elapsed.

- *Closed/off*: The output contact (terminal 1, 3, 6, 8 or 11, 13, 16, 18) opens (neutral middle position). The ventilation flap is closed and connected consumers switched off.

Invert output

Options: Yes
No

This parameter inverts the reaction of the output.

- *Yes*: If a telegram with the value 1 is received at the communication object *Flaps open-closed/on-off*, then the ventilation flap is closed or the consumer is switched off. If a telegram with the value 0 is received, then the ventilation flap is opened or the consumer is switched on. In addition, all the settings made for the output, e.g. OPEN/ON or CLOSED/OFF are inverted for weather alarms, bus voltage recovery, etc.

Staircase lighting function

Options: Deactivated
Activated

This parameter enables the function *Staircase lighting*.

- *Activated*: The following parameter appears.

**Duration/opening time for staircase
lighting function in s [0...30,000]**

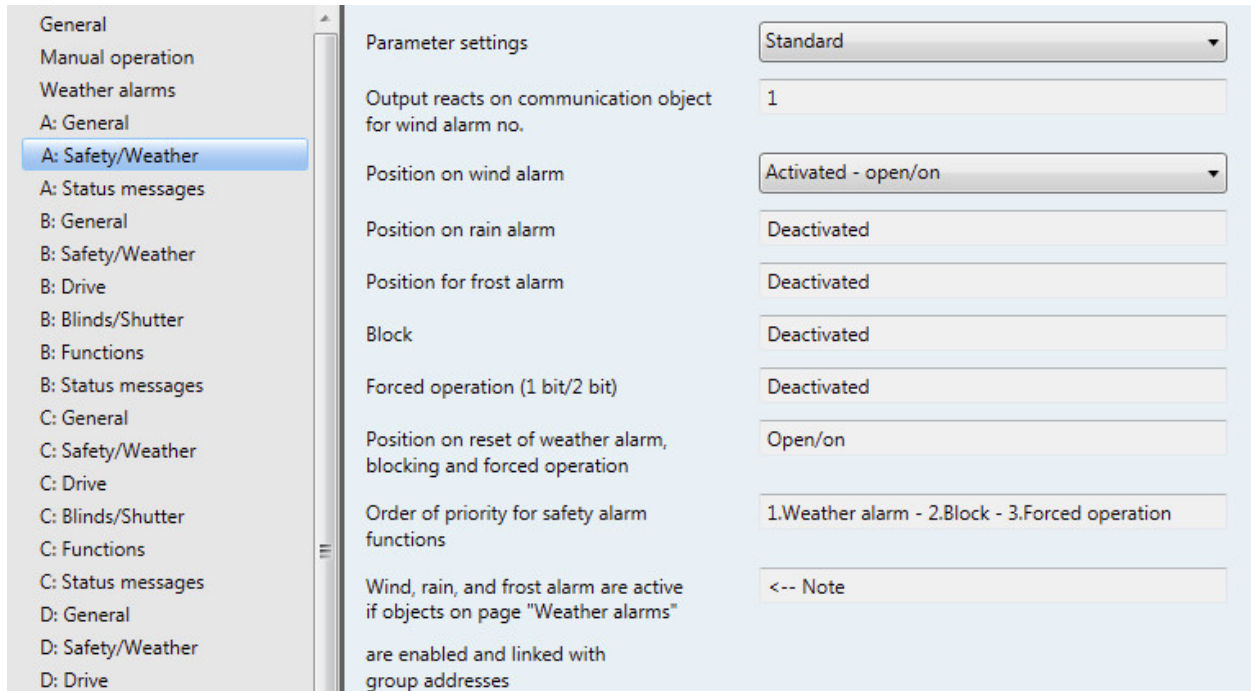
Options: 0...60...30,000

This parameter specifies the duration or opening time of the staircase lighting.

ETS parameters and communication objects

2.4.6.1 Parameter window A: *Safety/weather*

In this parameter window, the settings affecting the function *Safety/weather* are undertaken.



Parameter settings	Value
Parameter settings	Standard
Output reacts on communication object for wind alarm no.	1
Position on wind alarm	Activated - open/on
Position on rain alarm	Deactivated
Position for frost alarm	Deactivated
Block	Deactivated
Forced operation (1 bit/2 bit)	Deactivated
Position on reset of weather alarm, blocking and forced operation	Open/on
Order of priority for safety alarm functions	1.Weather alarm - 2.Block - 3.Forced operation
Wind, rain, and frost alarm are active if objects on page "Weather alarms" are enabled and linked with group addresses	<-- Note

Parameter settings

Options: Standard
User-defined

This parameter defines the scope of parameterization.

- **Standard:** In the case of a wind alarm, the blind/shutter moves to a preset position using the parameter *Position on wind alarm*. This setting is usually sufficient in smaller projects. In this setting, the output only reacts to the communication object *Wind alarm No. 1*.
- **User-defined:** Complete parameter access for complex applications or safety settings of the output are possible. Other parameters appear.

Output reacts on communication object for wind alarm no.

Options: Output does not react to wind alarm
1/ 2/ 3/ 1+2/ 1+3/ 2+3/ 1+2+3

This parameter determines the Wind alarm communication objects to which the output reacts. The values of the assigned communication objects are linked by a logic OR.

Position on wind alarm

Position on rain alarm

Position on frost alarm

Options: Activated - no reaction
Activated - open/on
Activated - close/off
Deactivated

These parameters define the position of the output when a weather alarm (wind, rain, frost) is received. The output can no longer be operated via other communication objects or by manual operation until the weather alarm has been rescinded.

- **Activated - no reaction:** If the output is currently performing a movement, this action is terminated. If the output is at rest, it will remain unchanged in its position.
- **Activated- open/on:** The output contact is activated. The ventilation flap opens or the consumer is switched on.
- **Activated - closed/off:** The output contact is disconnected from the voltage supply. The ventilation flap closes or the consumer is switched off.
- **Deactivated:** The output does not react to an alarm, nor to the monitoring time. No setting can be made for a weather alarm.

Block

Options: Deactivated
Activated

This parameter enables the function **Block**. The output moves, e.g. to a parameterized position, or operation is disabled.

- **Activated:** The communication object **Block** is enabled. The following parameter appears.

ETS parameters and communication objects

Position during blocking

Options: No reaction
Open/on
Close/off

This parameter specifies the reaction of the output for the function **Block**.

- **No reaction:** If the output is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- **Open/on:** The output contact is activated. The ventilation flap opens or the consumer is switched on.
- **Closed/off:** The output contact is disconnected from the voltage supply. The ventilation flap closes or the consumer is switched off.

Forced operation

Options: Deactivated
Activated (1 bit)
Activated (2 bit)

With the Forced operation function, the output can be moved in a specific direction via a 1-bit telegram or be opened/closed or switched on/off via 2-bit telegrams and the operation can be disabled.

- **Activated (1 bit):** The communication object **Forced operation 1 bit** is enabled. The following parameter appears:

Position during forced operation

Options: No reaction
Open/on
Close/off

The reaction on Forced operation is set here.

- **No reaction:** If the output is currently execution a movement telegram, this action is terminated. If the output is at rest, it will remain unchanged in its position.
- **Open/on:** The output contact is activated. The ventilation flap opens or the consumer is switched on.
- **Closed/off:** The output contact is disconnected from the voltage supply. The ventilation flap closes or the consumer is switched off.
- **Activated (2 bit):** The communication object **Forced operation 2 bit** is enabled.

Position on reset of weather alarm, blocking and forced operation

Options: No reaction
Open/on
Close/off

This parameter determines the reaction when rescinding a weather alarm, block or a forced operation.

- **No reaction:** If the output is currently execution a movement telegram, this action is terminated. If the output is at rest, it will remain unchanged in its position. If, during a Weather alarm, Block or Forced operation, the output was parameterized or switched with Open/on, the staircase lighting time is restarted after the rescinding of a safety telegram (e.g. Wind alarm).
- **Open/on:** The output contact is activated. The ventilation flap opens or the consumer is switched on.
- **Closed/off:** The output contact is disconnected from the voltage supply. The ventilation flap closes or the consumer is switched off.

Order of priority for safety alarm functions

Options: 1.Weather alarm - 2. Block - 3. Forced operation
1. Weather alarm - 2. Forced operation - 3. Block
1. Block - 2. Weather alarm - 3. Forced operation
1. Block - 2. Forced operation - 3. Weather alarm
1. Forced operation - 2. Block - 3. Weather alarm
1. Forced operation - 2. Weather alarm - 3. Block

This parameter determines the sequence of priorities for the safety functions Weather alarms (wind, rain, frost), Block and Forced operation. These functions have a higher priority than all other functions. If one of these functions is activated, the operation of the output is disabled. This also applies during manual operation.

A priority must also be defined for safety functions among one another. In this way, the output is correctly controlled if more than one security function is activated simultaneously.

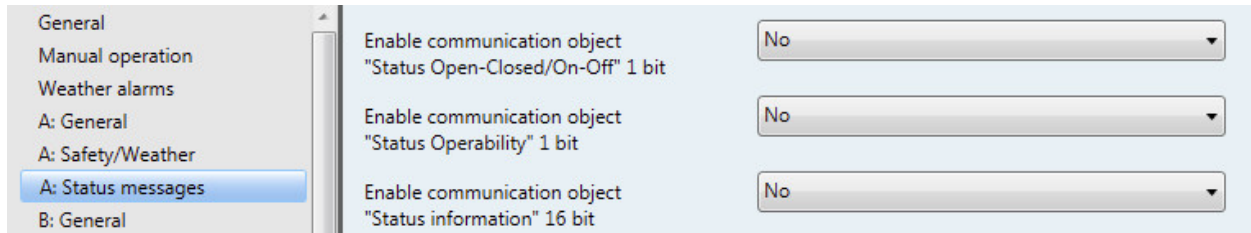
Note

Wind, rain and frost alarm are only activated if, on the page Weather alarms, the communication objects are enabled and linked to the group addresses!

ETS parameters and communication objects

2.4.6.2 Parameter window A: Status messages

Settings for the status messages and their send reaction are undertaken in this parameter window.



Enable communication object

"Status Open-Closed/On-Off" 1 bit

Options: Yes

No

- **Yes:** The communication object *Status Open-Closed/On-Off* is enabled. The following parameter appears:

Send object value

Options: No, update only

On change

On request

On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

Enable communication object

"Status Operability" 1 bit

Options: Yes

No

This function is particularly suitable to indicate to the user via an LED that the output cannot currently be operated via the direct communication objects (e.g. UP, DOWN...).

Operation is blocked if

- a safety function was activated, e.g. Weather alarm, Disable or Forced operation
- manual operation is active
- **Yes:** The communication object *Status Operability* is enabled. The following parameter appears: **Send object value**

Options: No, update only

On change

On request

On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.

Enable communication object

"Status information" 16 bit

Options: Yes

No

This parameter enables a 16-bit communication object, which can be used to read out, send or poll additional status information.

- **Yes:** The communication object *Status information* is enabled. The following parameter appears:

Send object value

Options: No, update only

On change

On request

On change or on request

- **No, only update:** The status is updated but not sent (the status can be read via the communication object).
- **On change:** The status is sent when a change occurs.
- **On request:** The status is sent when a request occurs.
- **On change or on request:** The status is sent on a change or a request.



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