Application Descriptions

Shutters and Blinds

Shutters and Blinds Sensors

7

50

1

Summary:

This document specifies the Functional Blocks for sensors in the Shutters and Blinds Application Domain.

Version 01.03.02 is a KNX Approved Standard.

This document is part of the KNX Specifications v2.1.

Document updates

Version	Date	Modifications
01	2003.08.27	Takeover from ASG Shutter & Blinds Issue: "07_50_01 Shutters and blinds sensors v01.03.02 AS.docx"
02	2005.05.18	Moved inputs for position (CAP, CAPL, CAPSD, CAPS) to dedicated FB. Concluded on DPs for interaction points.
	2005.10.18	Update by TF Editing Shutter sensor and blinds sensor only differentiated through mandatory parameters. Removed all HMI aspects and "half mode". Completed main concepts of functional specification.
	2006.01.10	Accepted all changes in the document. First specification of the detailed DPs at end of doc. (input/output/params). Streamlined DP names. Corrected list of abbreviations and grouped per class as in other papers. Inserted specification of parameter Up Down Action (UDA): this should be the same as for PART_UpDown_Switch_Action of S12 and PB_Action of Part 7/50. The parameters are specified in the sequence as they are introduced in the introduction.
	2006.02.01	TF Editing Decided on Object Type and Property Identifiers. Corrected parameters in Table 4.
	2006.05.09	TF Editing: Inserts SAPBP and SAPSP.
	2006-05-12	Add of SAPBL and SAPSD
1.0	2006.06.09	Preparation of the Draft Proposal.
1.1	2006.09.18	Accepted all changed. Inclusion of feedback from RfV.
	2007.02.01	Inclusion of Document References. Preparation of the Draft Proposal.
1.2	2007.03.20	Publication of the Approved Standard.
1.2	2009.06.26	Update in view of publication in the KNX Specifications v2.0.
01.03.01	2013.09.06	• **AN150 "FB Profiles for existing FBs"** integrated.
01.03.02	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[01]   Chapter 6/30/1 "Runtime Profiles"

Filename: 07_50_01 Shutters and blinds sensors v01.03.02 AS.docx
Version: 01.03.02
Status: Approved Standard
Savedate: 2013.10.29
Number of pages: 19

Contents

Abbreviations

Datapoints

IMUD	Info Move Up Down
MUD	Move Up Down
SAPBL	Set Absolute Position Blinds Length
SAPBP	Set Absolute Position Blinds Percentage
SAPSD	Set Absolute Position Slats Degrees
SAPSP	Set Absolute Position Slats Percentage
SSUD	StopStep Up Down
STOP	Dedicated Stop

Parameters

EBM	Enable Blinds Mode
ETM	Enable Toggle Mode
UDA	Up Down Action

Other

HMI	Human Machine Interface
SSSB	Shutters and Blinds Sunblind Sensor Basic

1   FB Shutters and Blinds Sunblind Sensor Basic

1.1   Aims and objectives

The FB Shutters and Blinds Sunblind Sensor Basic is used in the Application Domain Shutters and Blinds for providing input data to shutter and blinds actuators. It specifies the functionality, for example contained in a switch or a push button, to set (Venetian) blinds or shutters in a defined position.

Hardwired contacts and display elements (with own FBs) can be integrated, e.g. to send a dedicated stop request or to show the alarm or automatic status of the shutter or blinds actuator.

The inputs and outputs of the Functional Block are described but not the Human Machine Interface (HMI). Consequently, the manufacturers of the button or switch have the possibility to implement their design and their operation methods.
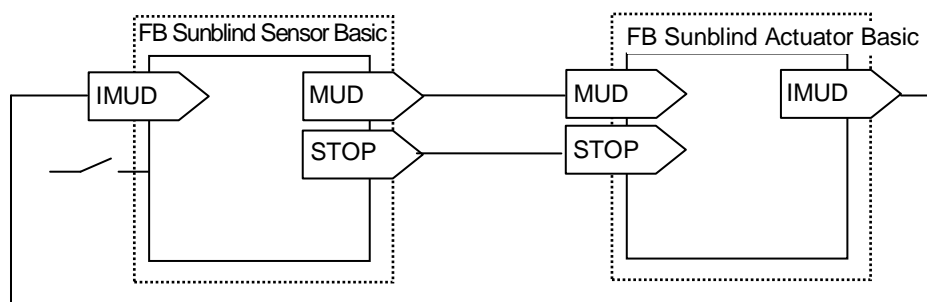
1.2   Functional specification

1.2.1   Overview

The FB Shutters and Blinds Sunblind Sensor Basic provides hardwired inputs for triggering transmission of values of output Datapoints.
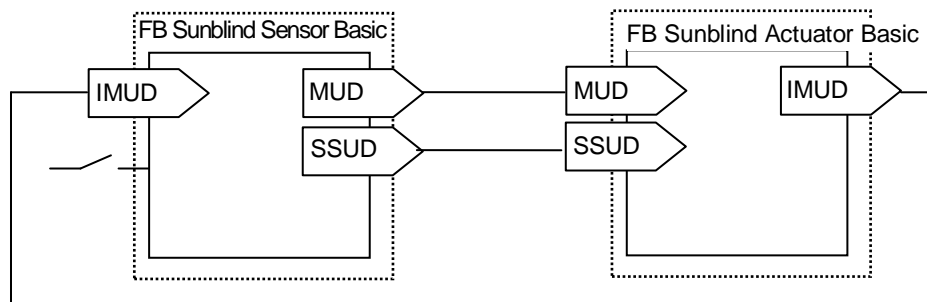
Figure 1 – Basic communication model (example)

This FB allows controlling both blinds actuators (through the DPs MUD and SSUD) as well as shutter actuators (through the DPs MUD and STOP).


Figure 2 – FB Shutters and Blinds Sunblind Sensor Basic used for shutter control

The parameter Enable Blinds Mode optionally allows selecting the functionality.

1.2.2   Parameter Up Down Action

The parameter Up Down Action shall limit the values transmitted by the Outputs MUD and SSUD to either only 0 ("Up" and "Decrease") or 1 ("Down" or "Increase").

This mainly makes sense if an appliance is realised as a combination of two FBs SSSB each with one interaction point. This realisation however is only meaningful if the parameter ETM is not implemented or has the value "Disable".
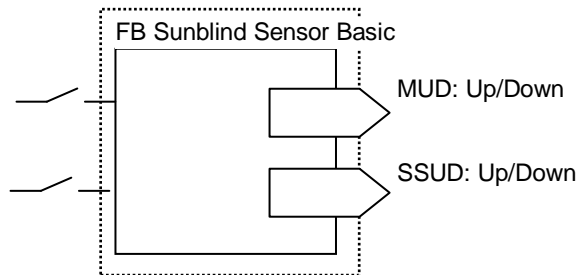
Figure 3 – One FB
with two interaction points
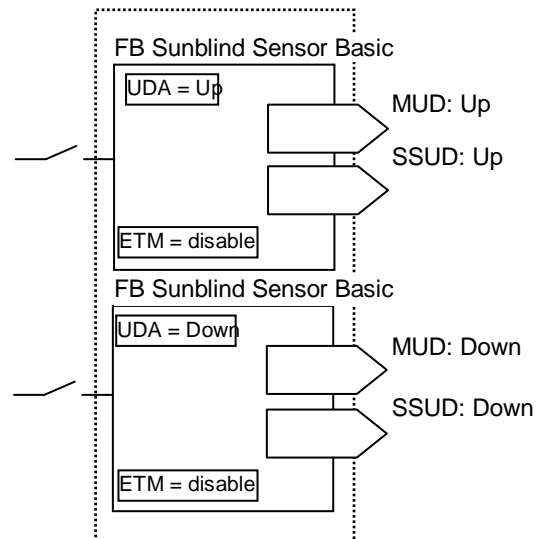
Figure 4 – Two FBs
each with one interaction points

The dashed outlined areas realise the same functionality. The DP MUD in the left solution sends both Up and Down. The DPs MUD in the right solution only send either Up (e.g. upper FB) or Down (e.g. lower FB).

1.2.3   Toggle Mode

Toggle Mode denotes the behaviour where the value of the output MUD inverts on each transmission. The value of MUD can be calculated by the device internally or by interpreting the received value of the input Info Move Up Down (IMUD).

The concept of toggle mode is only meaningful in the realisation as given in Figure 4. In case the parameter Enable Toggle Mode (ETM) has the value Enable, the parameter Up Down Action (UDA) becomes meaningless.

Toggle Mode implemented and active; IMUD is not implemented

Toggle Mode implemented and active; IMUD is implemented
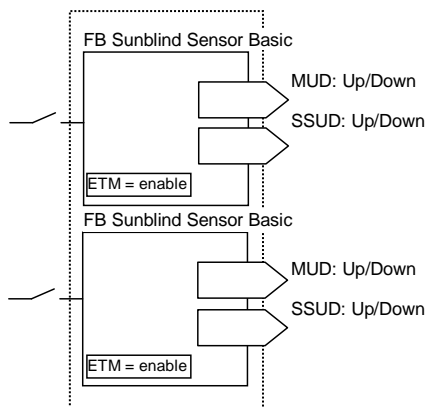
Figure 5 – Toggle Mode without IMUD

Figure 6 – Toggle Mode without IMUD

Rule 1

Each subsequent transmission on the DP MUD will have an inverted value compared to the previous transmission.

$$MUD_{n+1} = NOT(MUD_n)$$

Rule 2

Rule 1 is in this case **extended** with the following: on each reception of IMUD, MUD becomes the value of IMUD.

$$MUD = IMUD$$

The relation between IMUD and Toggle Mode (Figure 6) can be summarized in the following pseudo code.

```
if(Update(DP_IMUD)) {              // This is rule 2.
      DP_MUD = GetValue(DP_IMUD);
}
if (UserInteraction) {           // This is rule 1.
      DP_MUD = InvertValue(DP_MUD);
      SendValue(DP_MUD);
}
```

The interpretation of Toggle Mode concerning DP SSUD is manufacturer specific.

The value of the DP STOP is not influenced by Toggle Mode.

1.2.4 Dedicated stop

- An implementation of the FB Shutters and Blinds Sunblind Sensor Basic with solely the DPs MUD and STOP is designed for shutter control.

- An implementation of the FB Shutters and Blinds Sunblind Sensor Basic with solely the DPs MUD and SSUD is designed for blinds control.

    Controlling blinds in groups: unintended step

    If one sensor controls two blinds of which one is moving and the other has stopped, transmission of the DP SSUD will cause the first blinds to stop its movement and the second blinds actuator to perform an unintended step.

  To prevent from this possible side-effect, the DP Stop (DPT_Trigger) can be used. The DP Stop is used to stop the motion of shutters. It can also serve as a direct stop for blinds.

  NOTE   The functionality of the DP SSUD in the actuator is not influenced by this.

- An implementation of the FB Shutters and Blinds Sunblind Sensor Basic with the DPs MUD, SSUD and STOP can be used for both blinds control as well as shutter control.

1.2.5   Parameter Enable Blinds Mode

There may be devices that control *only* shutters or *only* blinds. However, there can be also sensors that combine shutter- and blind- actuators control. Such devices can implement the parameter Enable Blinds Mode, which shall be interpreted as indicated in Table 1.

Table 1 – Interpretation of parameter Enable Blinds Mode

Datapoint	Enable Blinds Mode	
	Disable	**Enable**
STOP	active	inactive
SSUD	inactive	active

1.2.6   Functionality of the HMI

No requirements are specified concerning the interpretation of the HMI.

The following parameters shall allow coping with various HMI flavours and approaches towards controlling both shutter actuators as well as blinds actuators:

1. Input IMUD

2. Parameter Enable Blinds Mode

3. Parameter Enable Toggle Mode

4. Parameter Up Down Action

1.3   Constraints

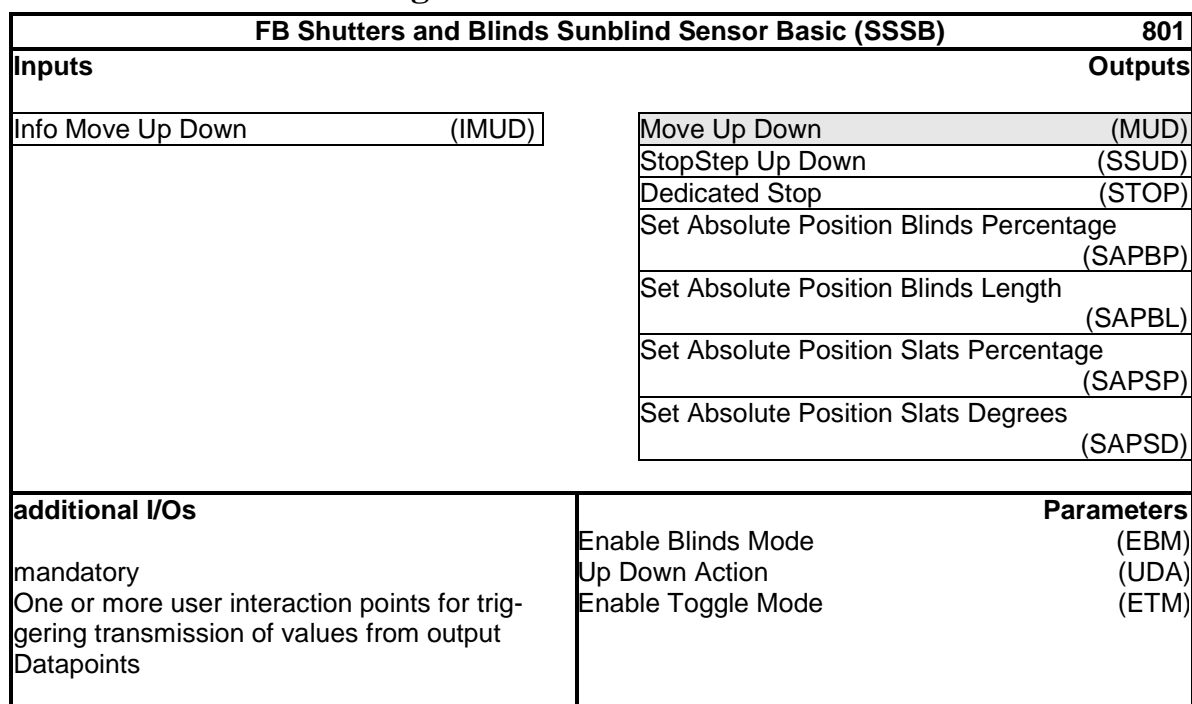This FB foresees the relative positioning of the blinds and the slats in percent. No parameters are standardised for these Outputs however. The relative control (DPT_Control_Blinds, 3.008) is foreseen for a future extension.

This FB does not foresee any functionality for scene controlling. The inputs in the shutters and blinds actuator for scene control can be controlled by a dedicated FB for scene purposes.

1.4   Functional Block Diagram

FB Shutters and Blinds Sunblind Sensor Basic (SSSB)	801
Inputs	**Outputs**

Inputs	Outputs
Info Move Up Down (IMUD)	Move Up Down (MUD)
	StopStep Up Down (SSUD)
	Dedicated Stop (STOP)
	Set Absolute Position Blinds Percentage (SAPBP)
	Set Absolute Position Blinds Length (SAPBL)
	Set Absolute Position Slats Percentage (SAPSP)
	Set Absolute Position Slats Degrees (SAPSD)

additional I/Os	Parameters
	Enable Blinds Mode (EBM)
mandatory	Up Down Action (UDA)
One or more user interaction points for triggering transmission of values from output Datapoints	Enable Toggle Mode (ETM)

▨   mandatory   ☐   optional

Figure 7 – Functional Block Diagram for FB Shutters and Blinds Sunblind Sensor Basic

1.5   Datapoints

1.5.1   Overview

Table 2 – Datapoint overview

Datapoint	Description/Remarks	Datapoint Type
Outputs		
Move Up Down	To move sunblind up ("0") and down ("1")	DPT_UpDown (1.008)
StopStep Up Down	To stop the sunblind and to step it Up Down	DPT_Step (1.007)
Dedicated Stop	To stop the sunblind	DPT_Trigger (1.017)
Set Absolute Position Blinds Percentage	To set the absolute position of the blinds in percent.	DPT_Scaling (5.001)
Set Absolute Position Blinds Length	To set the absolute position of the blinds in millimetre.	DPT_Length_mm (7.011)
Set Absolute Position Slats Percentage	To set the absolute position of the slats in percent.	DPT_Scaling (5.001)
Set Absolute Position Slats Degrees	To set the absolute position of the slats in degrees.	DPT_Rotation_Angle (8.011)
Inputs		
Info Move Up Down	To indicate the last moving direction	DPT_UpDown (1.008)
Parameters		
Enable Blinds Mode	Defines which of the outputs SSUD or STOP is active. E-Mode: Sel_ShutterBlinds	DPT_Enable (1.003)
Up Down Action	Limits the values sent by the output IMUD to only Up or only Down. E-Mode: PB_Action	DPT_UpDown (1.008)

Datapoint	Description/Remarks	Datapoint Type
Enable Toggle Mode	Specifies whether the output MUD is the inverse of the input IMUD or not. E-Mode: Device_Mode	DPT_Enable (1.003)

1.5.2   FB Profiles

Features and options	Basic FB	FB Profile 1 [1)] LTE-Mode interface	FB Profile 2 (recommended)
		Standard Mode	
Output MUD	M	GO	GO
select 1 of 2 {			
Output SSUD	M	O	GO
Output STOP	M	GO	O
}			

Table 3 exclusively specifies the allowed combinations of output Datapoints. Combination 1 is designed for controlling shutter actuators (which have no slats). Combination 2 is designed for controlling blinds actuators (which have slats). The parameter Enable Blinds Mode allows toggling between these operation modes.

Table 3 - Combination of mandatory Datapoints

Datapoints	Combination	
	1	**2**
SSUD	O	M
STOP	M	O
MUD	M	M

Table 4 - Parameters

Parameters		Basic FB	S-Mode
Parameters	EBM	**O**	**O**
	UDA	**O**	**O**
	ETM	**O**	**O**

[1)] This FB Profile 1 is mainly for the documentation of legacy implementations and is not recommended for new implementations.

As regards S-Mode/LTE-Standard mode interface/Ctrl mode implementation of parameters, in case of memory mapped Datapoints the DPT may be manufacturer specific. In case of implementation as a Property of an Interface Object, the use of the standardise parameter specification is mandatory.

1.5.3   Detailed specification of Datapoints

1.5.3.1 Output Move Up Down

DP Name:	Move Up Down		Abbr.:	MUD	Mandatory	☒
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)				Can be internal	☐

Description
The output Move Up Down shall be used to control the movement of the shutter or blinds actuators.

Datapoint Type						
DPT_Name:	DPT_UpDown					
DPT Format:	B_1			DPT_ID:	1.008	
Field	Description			Supp.	Range	Unit	Default
b	This field shall indicate whether the shutter or blinds shall be moved upwards (open) or downwards (close).			M	{0, 1}	-	-

Access Type

♦	Output						
	this → M	☒	this → 1	☐			
	Spontaneous	☒	COV:	☒	Δ-Value:	Min repetition time:	
			Cyclic	☐	Period:		
	Request	☐					

Communication Type		
♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	---	

Dynamics					
Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☒	Default value:	☐
		Saved value:	☐		☐
	Transmit on bus (only for output):	☐	Read from bus (only for input):	☐	

Exception Handling
Through the parameter Up Down Action it is possible that on human interaction only one value of the range is transmitted

Special Features
None.

1.5.3.2 Output StopStep Up Down

DP Name:	StopStep Up Down		Abbr.:	SSUD	Mandatory	☐ a)
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)				Can be internal	☐
Description						
This output shall be used to stop the movement of a blinds actuator or perform a gradual movement of its slats. It can also stop a movement of a shutter actuator.						

Datapoint Type							
DPT_Name:	DPT_Step						
DPT Format:	B_1				DPT_ID:	1.007	
Field	Description			Supp.	Range	Unit	Default
b	0: step up 1: step down			M	{0, 1}	none	-

Access Type

♦ Output

this → M	☒	this → 1	☐			
Spontaneous	☒	COV:	☐	Δ-Value:	Min repetition time:	
		Cyclic	☐	Period:		
Request	☐					

Communication Type

♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics

Power down:	Save:	☐		
Power up:	Value:	No initialisation:	☒	Default value:	☐
		Saved value:	☐	Current value (not for input):	☐
		Transmit on bus (only for output):	☐	Read from bus (only for input):	☐

Exception Handling

A read response received on an attributed Group Address may cause a moving sunblind actuator to stop or a stopped sunblind actuator to perform a step.

Special Features

a) At least either one of the outputs SSUD or STOP shall be implemented: see Table 3.

1.5.3.3 Output Dedicated Stop

DP Name:	Dedicated Stop		Abbr.:	STOP	Mandatory	☐ a)
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)				Can be internal	☐

Description						
This output shall be used to request a shutter or blinds actuator to stop its movement.						

Datapoint Type						
DPT_Name:	DPT_Trigger					
DPT Format:	B_1			DPT_ID:	1.017	
Field	Description			Supp.	Range	Unit	Default
b	0, 1: Requests to stop the movement.			M	{0, 1}	none	none

Access Type

♦   Output

this → M	☒	this → 1	☐			
Spontaneous	☒	COV:	☐	Δ-Value:		Min repetition time:	
		Cyclic	☐	Period:			
Request	☐					

Communication Type

♦   Group Object Datapoint   Mandatory: ☒

Default Group Address:	---

Dynamics

Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☒	Default value:	☐
		Saved value:	☐	Current value (not for input):	☐
		Transmit on bus (only for output):	☐	Read from bus (only for input):	☐

Exception Handling

--

Special Features

a)   At least either one of the outputs SSUD or STOP shall be implemented: see Table 3.

1.5.3.4 Output Set Absolute Position Blinds Percentage (SAPBP)

DP Name:	Set Absolute Position Blinds Percentage	Abbr.:	SAPBP	Mandatory	☐
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)			Can be internal	☐

Description
The Output „Set Absolute Position Blinds Percentage" shall be used to move the sunblind to a specified position between 0 % (fully open) and 100 % (fully closed). The range may in the implementation be limited.

Datapoint Type					
DPT_Name:	DPT_Scaling				
DPT Format:	U_8		DPT_ID:	5.001	
Field	Description	Supp.	Range	Unit	Default
UnsignedValue	Requested position of the sunblind in percent.	M	0 % … 100 %	%	none

Access Type					
♦ Output					
this → M	☒	this → 1	☐		
Spontaneous	☒	COV: ☐	Δ-Value:	Min repetition time:	
		Cyclic ☐	Period:		
Request	☐				

Communication Type			
♦ Group Object Datapoint		Mandatory:	☒
Default Group Address:	---		

Dynamics				
Power down:	Save:	☐		
Power up:	Value:	No initialisation: ☒	Default value:	☐
		Saved value: ☐	Current value (not for input):	☐
		Transmit on bus (only for output): ☐	Read from bus (only for input):	☐

Exception Handling
--

Special Features

1.5.3.5 Output Set Absolute Position Blinds Length (SAPBL)

DP Name:	Set Absolute Position Blinds Length		Abbr.:	SAPBL	Mandatory	☐
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)				Can be internal	☐

Description
The Output „Set Absolute Position Blinds Length" shall be used to move the sunblind to a specified position between 0 mm (fully open) and the lowest position (fully closed). The range may in the implementation be limited.

Datapoint Type

DPT_Name:	DPT_Length_mm				
DPT Format:	U_{16}		DPT_ID:		7.011

Field	Description	Supp.	Range	Unit	Default
UnsignedValue	Requested position of the sunblind in mm.	M	0 mm … 65 535 mm	mm	none

Access Type					
♦ Output					
this → M	☒	this → 1	☐		
Spontaneous	☒	COV: ☐	Δ-Value:		Min repetition time:
		Cyclic ☐	Period:		
Request	☐				

Communication Type		
♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	---	

Dynamics				
Power down:	Save:	☐		
Power up:	Value:	No initialisation: ☒	Default value:	☐
		Saved value: ☐	Current value (not for input):	☐
		Transmit on bus (only for output): ☐	Read from bus (only for input):	☐

Exception Handling
--

Special Features

1.5.3.6 Output Set Absolute Position Slats Percentage (SAPSP)

DP Name:	Set Absolute Position Slats Percentage	Abbr.:	SAPSP	Mandatory	☐ a)
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)			Can be internal	☐

Description
The Output „ Set Absolute Position Slat Percentage " shall be used to move the slats into a specified slat position between 0% and 100%. The range may in the implementation be limited.

Datapoint Type

DPT_Name:	DPT_Scaling		
DPT Format:	U₈	DPT_ID:	5.001

Field	Description	Supp.	Range	Unit	Default
UnsignedValue	Requested position of the slats in percent.	M	0 % … 100 %	%	none

Access Type				
♦ Output				
this → M	☒	this → 1	☐	
Spontaneous	☒	COV: ☐	Δ-Value:	Min repetition time:
		Cyclic ☐	Period:	
Request	☐			

Communication Type		
♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	---	

Dynamics					
Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☒	Default value:	☐
		Saved value:	☐	Current value (not for input):	☐
		Transmit on bus (only for output):	☐	Read from bus (only for input):	☐

Exception Handling
None.

Special Features
None.

1.5.3.7 Output Set Absolute Position Slats Degrees (SAPSD)

DP Name:	Set Absolute Position Slats Degrees	Abbr.:	SAPSD	Mandatory	☐
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)			Can be internal	☐

Description
The Output „ Set Absolute Position Slat Degrees " shall be used to move the slats into a specified slat position between 0° and the maximum slat-angle (positive value) or 0° and the minimum slat-angle (negative value) The range may in the implementation be limited.

Datapoint Type					
DPT_Name:	DPT_Rotation_Angle				
DPT Format:	V_{16}		DPT_ID:	8.011	
Field	Description	Supp.	Range	Unit	Default
UnsignedValue	Requested position of the slats in degrees.	M	-180° … 180°	°	none

Access Type					
♦ Output					
this → M	☒	this → 1	☐		
Spontaneous	☒	COV: ☐	Δ-Value:	Min repetition time:	
		Cyclic ☐	Period:		
Request	☐				

Communication Type		
♦ Group Object Datapoint	Mandatory:	☒
Default Group Address:	---	

Dynamics					
Power down:	Save:	☐			
Power up:	Value:	No initialisation:	☒	Default value:	☐
		Saved value:	☐	Current value (not for input):	☐
		Transmit on bus (only for output):	☐	Read from bus (only for input):	☐

Exception Handling
None.

Special Features
None.

1.5.3.8 Input Info Move Up Down

DP Name:	Info Move Up Down		Abbr.:	IMUD	Mandatory	☐
FB Name:	Shutters and Blinds Sunblind Sensor Basic (SSSB)				Can be internal	☐
Description						
The input „Info Move Up Down" shall be used to receive the last moving direction of the sunblind or shutter. This information can be used solely for visualisation purposes, for realising the toggle functionality or other purposes.						
Datapoint Type						
DPT_Name:	DPT_UpDown					
DPT Format:	B_1			DPT_ID:	1.008	

Field	Description	Supp.	Range	Unit	Default
b	Indicates the last moving direction as received from the actuator.	M	{0, 1}	-	-

Access Type						
♦	Input					
	N → this	☐	1 → this	☒		
	Spontaneous	☒	Cyclically:	☐	Time-out:	
	Request	☐	Polling:	☐	Period:	
Communication Type						
♦	Group Object Datapoint				Mandatory:	☒
	Default Group Address:	---				
Dynamics						
	Power down:	Save:	☐			
	Power up:	Value:	No initialisation:	☒	Default value:	☐
			Saved value:	☐	Actual value:	☐
		Transmit on bus (only for output):	☐	Read from bus (only for input):	☐	
Exception Handling						
If this DP is not received (communication failure or configuration mistake) and the toggle functionality is implemented, then the specification the output MUD will still toggle, as specified in 1.2.3.						
Special Features						
None.						

1.5.3.9 Parameter Enable Blinds Mode

FB:	Shutters and Blinds Sunblind Sensor Basic (SSSB)	Property Name (<u>Server</u>):		Enable Blinds Mode (EBM)		Mandatory Optional	☐ ☒
Description:							
In case both inputs SSUD and STOP are implemented, then this parameters allows selecting which of these is active. The FB shall not react on any data received on the inactive input.							
DPT:	Name	DPT_Enable		DPT_ID	1.003	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
b	See Table 1.	M	{0, 1}	none	none

Communication:					
DP Address:	object_type:	801	PID:	51	
(in the server)	start_index:	1	nr_of_elem:	1	
Property access:	Read only	☐	Read/Write	☒	
Protection	Read level	-	Write level	-	
Exception Handling:	Value after Power-up:	Stored Value ☒	Act Value ☐	Default Value ☐	
None.					
Special Features:					
None.					

1.5.3.10 Parameter Up Down Action

FB:	Shutters and Blinds Sunblind Sensor Basic (SSSB)	Property Name (<u>Server</u>):		Up Down Action (UDA)			Mandatory ☐ Optional ☒	
Description:								
If this parameter is implemented, then MUD and SSUD shall always send one single value equal to the value of this parameter. This parameter only makes sense in certain realisation flavours of this FB: see 1.2.2.								
DPT:	Name	DPT_UpDown		DPT ID	1.008	Datatype format		B₁
Field	Description				Sup.	Range	Unit	Default

b	0 = Up
	    MUD and SSUD shall only send the value 0.
	1 = Down
	    MUD and SSUD shall only send the value 1.
					M	{0,1}	None	None

Communication:								
DP Address: (in the server)	object_type:		801		PID:		52	
	start_index:		1		nr_of_elem:		1	
Property access:	Read only ☐		Read/Write ☒					
Protection	Read level	-			Write level		-	
Exception Handling:	Value after Power-up: Stored Value ☒				Act Value ☐		Default Value ☐	
None.								
Special Features:								
None.								

1.5.3.11 Parameter Enable Toggle Mode

FB:	Shutters and Blinds Sunblind Sensor Basic (SSSB)	Property Name (<u>Server</u>):		Enable Toggle Mode (ETM)			Mandatory ☐ Optional ☒	
Description:								
If this parameter has the value "Enable" then the value of the output MUD shall toggle each time it is transmitted; if this parameter has the value "Disable" then the output MUD shall not be toggled. See 1.2.3.								
DPT:	Name	DPT_Enable		DPT ID	1.003	Datatype format		B₁
Field	Description				Sup.	Range	Unit	Default
b	Enables or disables Toggle Mode.				M	{0,1}	None	None
Communication:								
DP Address: (in the server)	object_type:		801		PID:		53	
	start_index:		1		nr_of_elem:		1	
Property access:	Read only ☐		Read/Write ☒					
Protection	Read level	-			Write level		-	
Exception Handling:	Value after Power-up: Stored Value ☒				Act Value ☐		Default Value ☐	
None.								
Special Features:								
None.								