Application Descriptions

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1

Shutters and Blinds

Shutters and Blinds Sensors

Supplement 1
LTE-Mode Extensions

Summary

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

Version 01.00.02 is a KNX Approved Standard.

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

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v01.00.01	2013.10.22	Editorial review in view of integration in the KNX Specifications v2.1.
01.00.02	2013.10.29	Editorial review in view of integration in the KNX Specifications v2.1.

References

[01] Chapter 7/50/1 “Shutters and Blinds Sensors”

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Abbreviations

COV	Change Of Value
FS	FB Frost Sensor
IR	LTE-Mode InfoReport service
LDSB	Light Dimming Sensor Basic
LSSB	Light Switching Sensor Basic
LTE-Mode	Logical Tag Extended easy mode
RS	FB Rain Sensor
SAB	FB Sunblind Actuator Basic
SSSB	FB Shutters and Blinds Sunblind Sensor Basic
WS	FB Wind Sensor

1 FB Shutters and Sunblind Sensor Basic (SSSB)

1.1 Aims and objectives

The definitions in this document for FB Shutters and Blinds Sunblind Sensor Basic (SSSB) are an add-on to the existing FB Specification in [01] to describe the LTE-Mode runtime interface and LTE-Mode specific parameters of FB SSSB.

The FB SSSB is used in the Application Domain of Shutters and Blinds:

- to notify control commands to shutters and blinds actuators (traditional direct sensor – actuator communication), where the control functionality, command arbitration and priority handling is located in the actuator, or
- to provide control data to shutters and blinds controllers (sensor – controller – actuator communication)

The inputs and outputs of FB SSSB are specified in this document but not the Human Machine Interface (HMI). Consequently, product manufacturers have the possibility to implement their design and their operation methods.

1.2 Functional specification

1.2.1 Overview

The FB Shutters and Sunblind Sensor Basic

- provides hardwired inputs or local button/HMI functionality to trigger output messages to control the Up/Down status of FB Sunblind Actuator Basic (SAB)
- receives status feedback messages from sunblind actuators according to the FB specification in [01]

Binding of SSSB and SAB FBs is based on LTE-Mode zoning concepts. Control and status feedback information are exchanged according to LTE-Mode mechanisms in a common BlindsGroup.

In the LTE-Mode runtime system BlindsGroup is mapped to existing LTE-Mode Geographical zones.

Runtime process communication of SSSB is disabled if LTE-Mode BlindsGroup is ‘OutOfService’

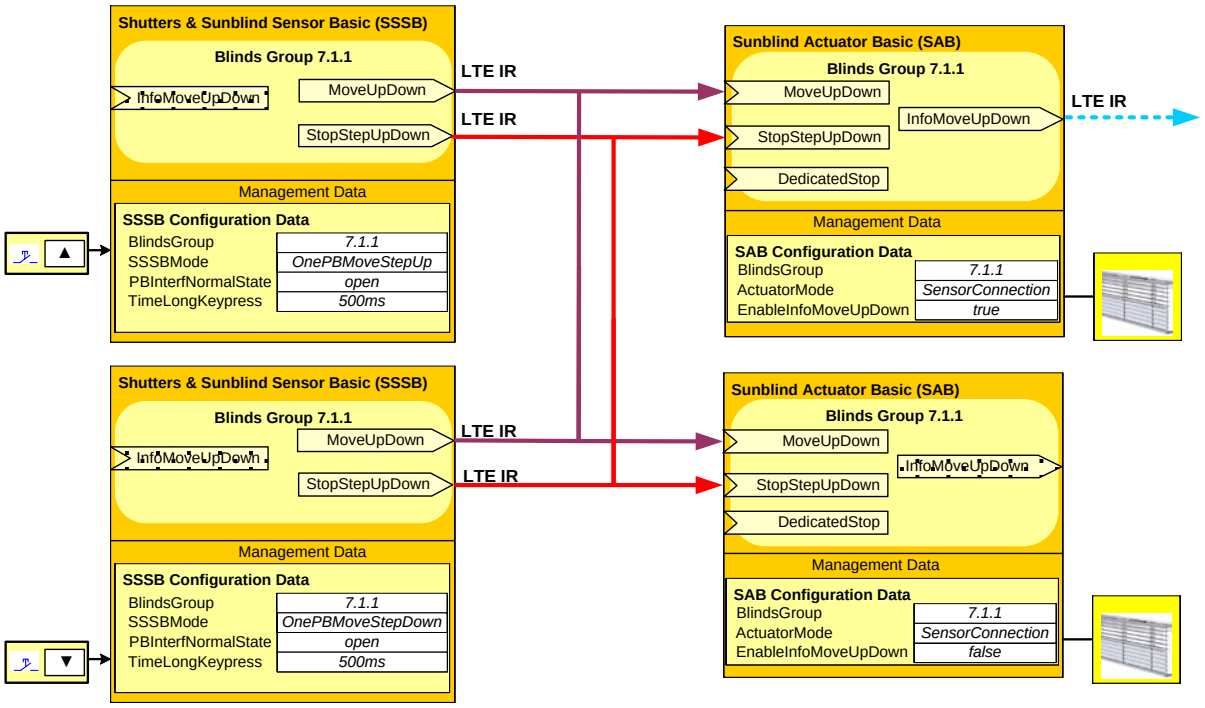

Figure 1 – Example with parallel sunblind sensors and actuators

This example shows the direct binding of two SSSB sensors with two parallel actuators SAB. All process data are exchanged in the same BlindsGroup

SSSB is configured to be operated via 2 push-buttons or binary inputs.

- one push-button / binary input to provide control commands to move up / step up
- one push-button / binary input to provide control commands to move down / step down

Runtime process data MoveUpDown and StopStepUpDown is provided by both SSSB and received (last wins principle) by both SAB

Actuator feedback information InfoMoveUpDown could be provided by both SAB actuators to support e.g. the toggle functionality in the SSSB. However, in the example above InfoMoveUpDown is in principle not needed on the SSSB. InfoMoveUpDown is provided by one SAB only (configured as group-speaker).

NOTE 1 Since both actuators are controlled together, InfoMoveUpDown value of both actuator feedback messages would normally be identical (=> last wins principle on the input in the SSSB). Redundant InfoMoveUpDown messages create unnecessary traffic and should be avoided.

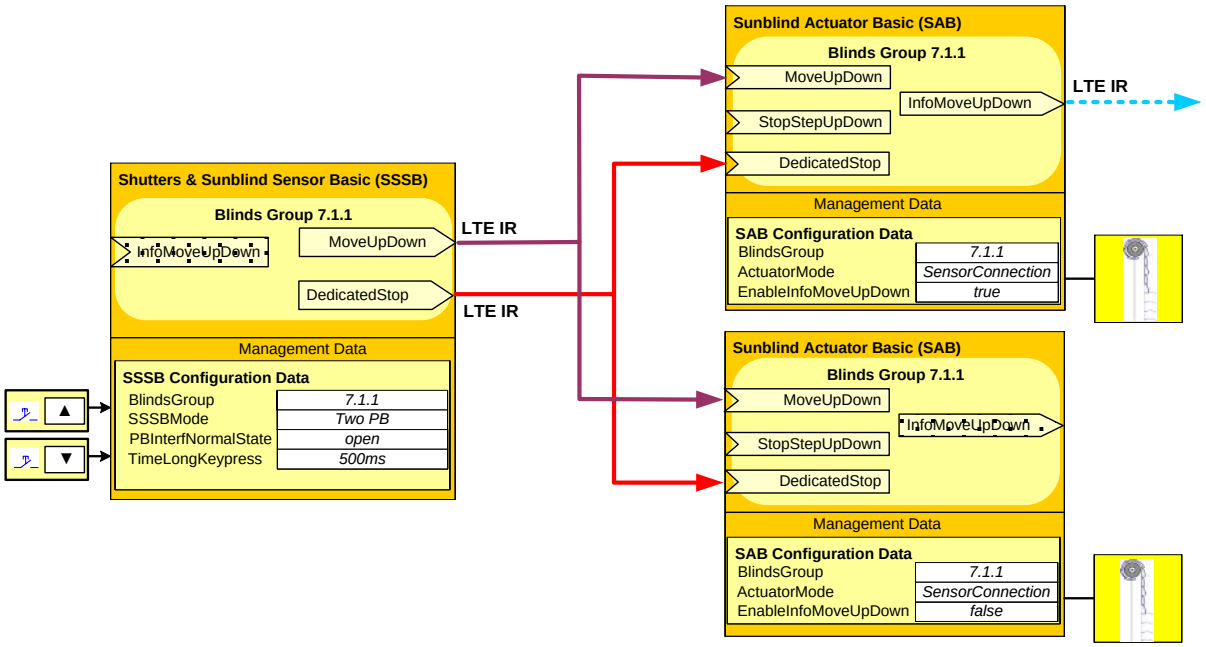

Figure 2 – Example of direct SSSB – SAB connection: manual shutter control, basic interworking

Figure 2 illustrates direct binding of one SSSB with two parallel actuators SAB. Runtime interworking covers basic functionality to manually control the shutter position.

SSSB is configured to be operated via 2 push-buttons or binary inputs.

- one push-button / binary input to provide control commands to move up / stop movement
- one push-button / binary input to provide control commands to move down / stop movement

Control command **MoveUpDown** is provided by the SSSB to trigger up/down movement of the shutter.

Specific control command **DedicatedStop** is provided by the SSSB instead of StopStepUpDown to trigger a stop command if the shutter is moving. DedicatedStop command is sent by the SSSB using LTE-Mode InfoReport Service and is received and processed by both SAB in the same BlindsGroup.

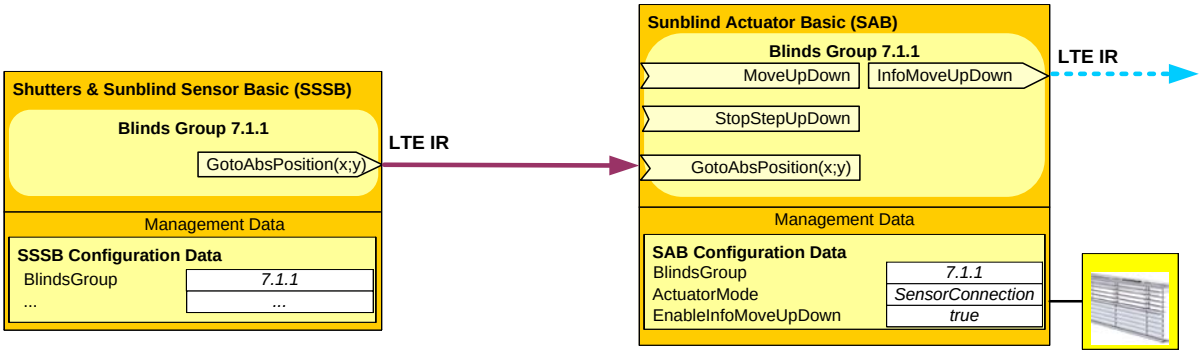

Figure 3 – SSSB providing combined absolute positioning command

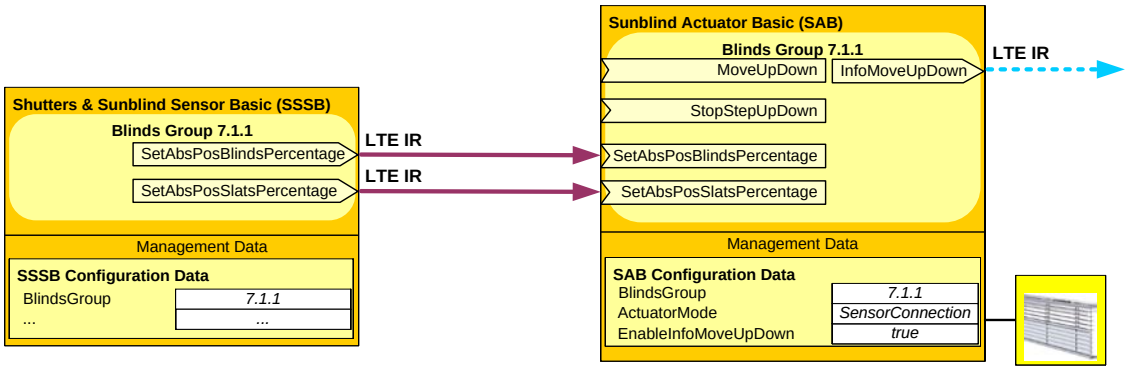

Figure 4 – SSSB providing separate height and slats positioning commands

Figure 3 and Figure 4 illustrate extended runtime interworking mechanisms between a SSSB and a SAB with the purpose to start moving the blinds towards an absolute position specified by the HeightPosition (%) and SlatsPosition (%).

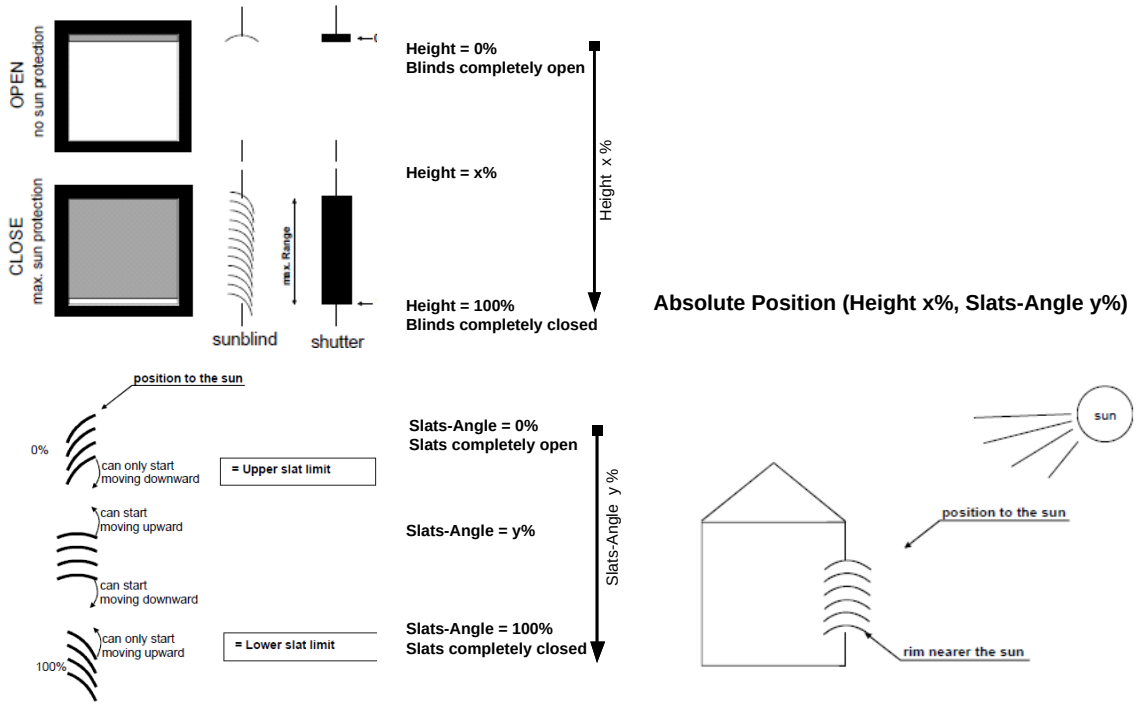

Figure 5 – Representation of height and slats position in percentage

Control command **GotoAbsPosition(x;y)** according to Figure 3 contains both HeightPosition(x) and SlatsPosition(y) and validity attributes for both position fields. Combination of both position fields in one message ensures consistency of the target position. The actuator will usually move the blinds to the target HeigthPosition first and will then move the slats to the target SlatsPosition.

Usage of combined control command GotoAbsPosition is recommended if the actuator supports control of height- and slats-angle position (e.g. for venetian sunblind)

Control commands **SetAbsPosBlindsPercentage** and **SetAbsPosSlatsPercentage** according to Figure 4 are used to control HeightPosition(x) and AnglePosition(y) independently. Usage of separate control commands SetAbsPosBlindsPercentage and SetAbsPosSlatsPercentage is recommended if either height – or angle position can be controlled (e.g. for shutters or vertical jalousies).

Absolute positioning control commands are provided by the SSSB using LTE-Mode InfoReport Service and are received and processed by the SAB in the same BlindsGroup.

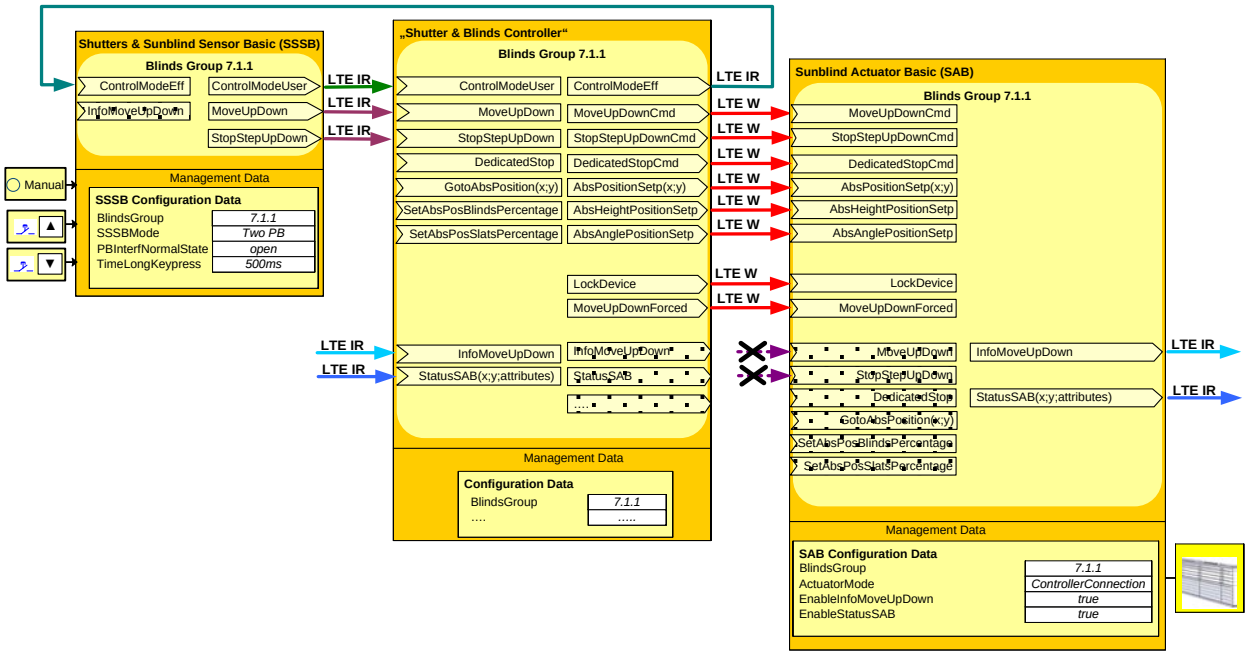

Figure 6 – Sunblind sensor – controller – actuator model: basic features

Figure 6 illustrates the basic application model for indirect binding of Sunblind Sensor SSSB with a Sunblind Actuator SAB via a Shutter & Blinds Controller.

Runtime interworking SSSB – Controller

The LTE-Mode Shutter & Blinds application model does not define a dedicated ‘Shutter & Blinds Controller’ FB. The design and runtime interface of the Shutter & Blinds Controller is manufacturer specific. However in the runtime system, the Shutter & Blinds Controller shall emulate a Sunblind Actuator ‘proxy SAB’ as the counterpart for the Sunblind Sensors SSSB.

Sunblind Sensors SSSB are connected to the Controller to notify direct control commands requested by the room occupant (manual control). The runtime interface between SSSB and the Controller is the same as for sensor – actuator binding

Inputs **MoveUpDown**, **StopStepUpDown**, **DedicatedStop** etc. on the Controller are usually processed with the same priority (last wins principle).

In addition the SSSB may provide the optional signal **ControlModeUser** representing a request by the user to change from manual to automatic control mode (and vice versa). The Controller provides the current control mode **ControlModeEff** (automatic/manual) as optional feedback information for the SSSB. For further details: see specification of FB SSSB.

The Controller determines the resulting control command to change the setpoint of the connected SAB according to control commands from SSSB and other criteria (e.g. scheduler, room occupancy etc.).

1.3 Functional Block diagram

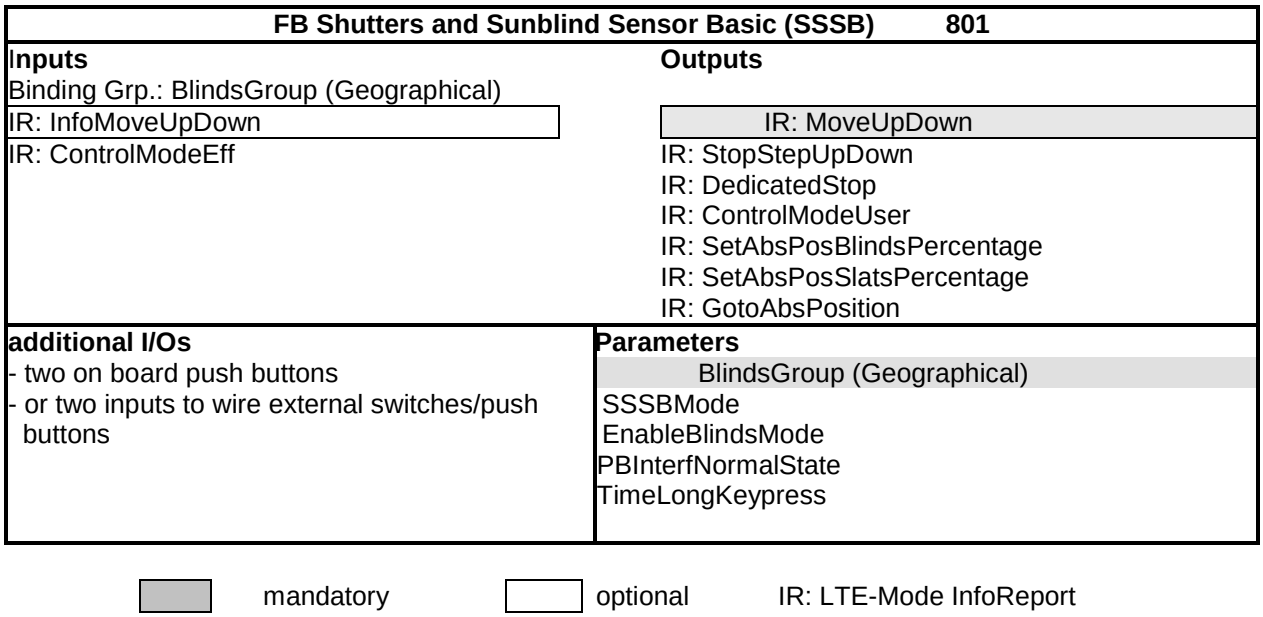

Figure 7 – Functional Block Diagram for FB Shutters and blinds sunblind Sensor Basic

1.4 Datapoints

Datapoint	Description	Datapoint Type	SSSB PID
Outputs			
MoveUpDown	Control signal to move the blinds up (=0) or down (=1)	DPT_UpDown (1.008)	PID 61
StopStepUpDown	Control signal to stop movement of the sunblind or to perform a step Up/Down	DPT_Step (1.007)	PID 62
DedicatedStop	Control signal to stop movement of the sunblind	DPT_Trigger (1.017)	PID 63
ControlModeUser	Command to request manual shutter / blinds control by local operation - 0: automatic control - 1: local manual control	BlindsControlMode (20.804)	PID 64
SetAbsPosBlinds Percentage	To set the absolute position of the blinds in percentage.	DPT_Scaling (5.001)	PID 65
SetAbsPosSlats Percentage	To set the absolute position of the slats in percentage.	DPT_Scaling (5.001)	PID 66
GotoAbsPosition	Command to start moving the blinds towards the absolute target position specified by the combined command fields HeightPosition (%) and SlatsPosition (%) Validity of the individual command fields is indicated by two additional attributes	DPT_CombinedPosition (240.800)	PID 67

Datapoint	Description	Datapoint Type	SSSB PID
Inputs			
SAB.InfoMoveUpDown	Feedback information from the actuator to indicate the last moving direction	DPT_UpDown (1.008)	SAB PID 51
SAB.ControlModeEff	Feedback information to indicate whether automatic or manual control mode is	DPT_BlindsControl-Mode (20.804)	SAB PID 54

Datapoint	Description	Datapoint Type	SSSB PID
Inputs			
	currently active - 0: automatic control - 1: manual control		

Datapoint	Description	Datapoint Type	SSSB PID
Parameters			
BlindsGroup (3 Properties)	LTE-Mode Geographical Zone - Building zone like Floor, Apartment - Room within the Building zone - Subzone within the Room	- DPT_UcountValue8_Z (202.002) - DPT_UcountValue8_Z (202.002) - DPT_UcountValue8_Z (202.002)	PID 101-103
EnableBlindsMode	Defines which of the outputs StopStepUpDown or DedicatedStop is active.	DPT_Enable (1.003)	PID 51
SSSBMode	Defines the basic behaviour of SSSB: 1: one push button/binary input; MoveUpDown inverts on each transmission 2: one push button/binary input, MoveUp / StepUp message sent 3: one push button/binary input, MoveDown/ StepDown message sent 4: two push buttons/binary inputs mode	DPT_SSSBMode (20.803)	PID 120
PBInterfNormalState	Defines normally open/closed behaviour of push button interface - 0: open - 1: closed	DPT_OpenClose (1.009)	PID 121
TimeLongKeypress	Time to detect long key press 0,3 s to 7 s;100ms resolution	DPT_TimePeriod100-Msec (7.004)	PID 122

Table 1 - LTE-Mode specific Properties

		Support
Parameter	BlindsGroup	M

Table 2 - Standard Properties of Interface Object

		Support
Parameter	EnableBlindsMode	O
	SSSBMode	O
	PBInterfNormalState	O
	TimeLongKeypress	O
Diagnostic Data	--	

1.5 Detailed specification of the Datapoints

1.5.1 Output MoveUpDown

FB: SSSB	**LTE-Mode Server Output Name:** MoveUpDown	Mandatory ☒ Optional ☐

Description:

Output MoveUpDown represents control commands to trigger Up/Down movement of the sunblind actuator

DPT:	Name	DPT_UpDown	DPT ID	1.008	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	This field shall indicate whether the sunblinds actuator will move up (0) or down (1)	M	{0, 1}	--	--	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 801 (SSSB)	Property ID: 61
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ MinRepTime: -- sec Heartbeat: -- min	
	Output per default communicating ☒	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
	Transm after Powerup: Stored Value ☐ Act Value ☐ Default Value ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling: Save at Powerdown ☐

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Special Features:

- Depending on the parameter SSSBMode it is possible that only one value of the range is transmitted
- LTE-Mode wildcard features can be used to control e.g. all sunblind actuators within the same Room or within the same BuildingZone
- No spontaneous transmission of a default value after power-return. Transmission shall be triggered by user interaction only

1.5.2 Output StopStepUpDown

FB: SSSB	**LTE-Mode Server Output Name:** StopStepUpDown	Mandatory ☒ Optional ☐

Description:

Output StopStepUpDown 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.

DPT:	Name	DPT_Step	DPT ID	1.001	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	0: step up or stop 1: step down or stop	M	{0, 1}	-	-	-

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	62

LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ MinRepTime: -- sec Heartbeat: -- min
	Output per default communicating ☒ Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐
	Transm after Powerup: Stored Value ☐ Act Value ☐ Default Value ☐

Property-Service (individual access):	Read only ☒ Read/Write ☐

Exception Handling: Save at Powerdown ☐

Read access to this output is in practice not meaningful. However the read response may cause a moving sunblind actuator to stop or a stopped sunblind actuator to perform a step.

Special Features:

- Depending on the parameter SSSBMode it is possible that only one value of the range is transmitted
- LTE-Mode wildcard features can be used to control e.g. all sunblind actuators within the same Room or within the same BuildingZone
- No spontaneous transmission of a default value after power-return. Transmission shall be triggered by user interaction only

1.5.3 Output DedicatedStop

FB: SSSB	**LTE-Mode Server Output Name:** DedicatedStop	Mandatory ☐ Optional ☒

Description:

Output DedicatedStop shall be used to request a shutter or blinds actuator to stop its movement.
The behavior of the SSSB to user interactions (e.g. via a 3rd push-button) to the corresponding DedicatedStop message is product specific.
SSSB may provide StopStepUpDown and/or DedicatedStop commands. Behavior of the SSSB may be fixed or configurable, depending on the features of the product. Usually either StopStepUpDown (for blinds) or DedicatedStop (for shutters) are activated at runtime

DPT:	Name	DPT_Trigger	DPT ID	1.017	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	0, 1: Requests to stop movement.	M	{0, 1}	-	-	-

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	63
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒	MinRepTime: -- sec	Heartbeat: -- min	
	Output per default communicating ☒		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Powerup: Stored Value ☐	Act Value ☐	Default Value ☐	
Property-Service (individual access):	Read only ☒	Read/Write ☐		

Exception Handling: Save at Powerdown ☐

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Special Features:

- LTE-Mode wildcard features can be used to control e.g. all sunblind actuators within the same Room or within the same BuildingZone
- No spontaneous transmission of a default value after power-return. Transmission shall be triggered by user interaction only

1.5.4 Output ControlModeUser

FB: SSSB	**LTE-Mode Server Output Name:** ControlModeUser	Mandatory ☐ Optional ☒

Description:

Output ControlModeUser provides a command to request/release manual shutter / blinds control by local operation.
The HMI action to trigger this command is manufacturer specific.
Input ControlModeEff on the SSSB may be used as feedback information to synchronize ControlModeUser values of multiple SSSB in the same zone

DPT:	Name	DPT_BlindsControlMode	DPT ID	20.804	Datatype format	N_8

Field	Description	Sup.	Range	Unit	COV	Default
ControlMode	This field shall indicate whether automatic control (0) or manual control (1) is requested by the room occupant. Values 2 to 255 are reserved for future extensions.	M	0, 1 *)	-	-	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	64
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒	MinRepTime: -- sec	Heartbeat: -- min	
	Output per default communicating ☒		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Powerup: : **) Stored Value ☒	Act Value ☐	Default Value ☒	
Property-Service (individual access):	Read only ☒		Read/Write ☐	

Exception Handling: Save at Powerdown ☐

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Special Features:

*) It shall be possible that only one value of the range is transmitted, e.g. to trigger ‘automatic control’ only

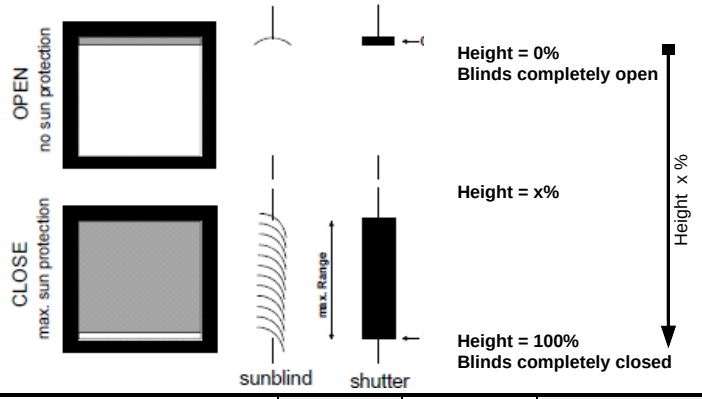
**) It shall be possible that a default/stored value is transmitted spontaneously after power-return or that SSSB does not send an initial ControlModeUser message after power-return.

1.5.5 Output SetAbsPosBlindsPercentage

FB:	SSSB	LTE-Mode Server Output Name:	SetAbsPosBlinds-Percentage	Mandatory ☐ Optional ☒

Description:

Command to start moving the blinds towards a specified position between 0 % (fully open) and 100 % (fully closed).
The effective range of allowed height positions may be limited by additional manufacturer specific parameters.



DPT:	Name	DPT_Scaling	DPT ID	5.001	Datatype format	U_8

Field	Description	Sup.	Range	Unit	COV	Default
HeightPosition	This field specifies the requested sunblind height-position in percentage.	M	{0 to 100}	%	cs	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	65
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒	MinRepTime: -- sec	Heartbeat: -- min	
	Output per default communicating ☒		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Powerup: Stored Value ☐	Act Value ☐	Default Value ☐	
Property-Service (individual access):	Read only ☒	Read/Write ☐		

Exception Handling: Save at Powerdown ☐

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Special Features:

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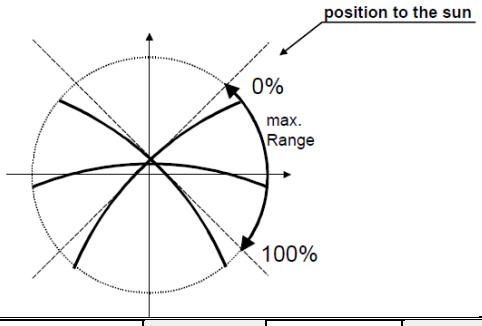
1.5.6 Output SetAbsPosSlatsPercentage

FB: SSSB	LTE-Mode Server Output Name: SetAbsPosSlats-Percentage	Mandatory ☐ Optional ☒

Description:

Command to start moving the slats towards a specified position between 0 % and 100 %.
The effective range of allowed slats positions may be limited by additional manufacturer specific parameters.



DPT:	Name	DPT_Scaling	DPT ID	5.001	Datatype format	U_8

Field	Description	Sup.	Range	Unit	COV	Default
SlatsPosition	This field specifies the requested slats-angle position in percentage.	M	{0 to 100}	%	cs	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 801 (SSSB)	Property ID: 66
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ MinRepTime: -- sec Heartbeat: -- min	
	Output per default communicating ☒	Binding Group Wildcard allowed ☒
	Tx Prio: High ☐ Normal ☒ Low ☐	
	Transm after Powerup: Stored Value ☐ Act Value ☐ Default Value ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling: Save at Powerdown ☐

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Special Features:

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1.5.7 Output GotoAbsPosition

FB: SSSB	**LTE-Mode Server Output Name:** GotoAbsPosition	Mandatory ☐ Optional ☒

Description:

Command to start moving the blinds towards the absolute position specified by the combined command fields HeightPosition (%) and SlatsPosition (%). See Figure 5
The combination of both values ensures consistency of the two command fields.
Validity of the individual command fields is indicated by two additional attributes.

DPT:	Name	DPT_CombinedPosition	DPT ID	240.800	Datatype format	$U_8U_8B_8$

Field	Description	Sup.	Range	Unit	COV	Default
HeightPosition	This field specifies the requested sunblind position between 0 % (fully open) and 100 % (fully closed). The supported range may be limited in the implementation	M	{0 to 100}	%	cs	--
SlatsPosition	This field specifies the requested slats-angle position between 0 % and 100 %. The supported range may be limited in the implementation	M	{0 to 100}	%	cs	--
Attributes	Bit #					
- ValidHeightPos	0	Validity of HeightPosition	M	true/false	--		--
- ValidSlatsPos	1	Validity of SlatsPosition	M	true/false	--		--
- reserved	2-7	reserved bits shall be 0					0

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	67
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒	MinRepTime: -- sec	Heartbeat: -- min	
	Output per default communicating ☒		Binding Group Wildcard allowed ☒	
	Tx Prio:	High ☐	Normal ☒	Low ☐
	Transm after Powerup: Stored Value ☐	Act Value ☐	Default Value ☐	
Property-Service (individual access):	Read only ☒		Read/Write ☐	

Exception Handling: Save at Powerdown ☐

--

Special Features:

--

1.5.8 Input InfoMoveUpDown

FB: SSSB	**LTE-Mode Client Input Name:**	InfoMoveUpDown	Mandatory ☐ Optional ☒

Description:

Input InfoMoveUpDown shall be used to receive from FB SAB the last moving direction of the sunblind or shutter.
This information can be used solely for visualisation purposes, for realizing the toggle functionality of output MoveUpDown or other purposes.

DPT:	Name	DPT_UpDown	DPT ID	1.008	Datatype format	B_1

Field	Description	Sup.	Unit	Default
b	Indicates the last moving direction as received from the actuator SAB.	M	--	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	800 (SAB)	Property ID:	51
LTE-Mode-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:	--		
	Timeout:	--	Min	
LTE-Mode-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:	--		

Value after Powerup: Default Value ☐ Stored Value ☐

Exception Handling: Save at Powerdown ☐

If this DP is not received by the SSSB (communication failure or configuration mistake on the SAB) and the toggle functionality is implemented in SSSB, then the output MoveUpDown will still toggle.

Special Features:

If multiple actuators are in the same zone, each actuator could send its own InfoMoveUpDown message. Since all actuators in the same zone are controlled together, subsequent InfoMoveUpDown feedback messages are normally identical => last wins principle on the input
However it is highly recommended to configure one actuator in the zone as InfoMoveUpDown group-speaker

1.5.9 Input ControlModeEff

FB: SSSB	**LTE-Mode Client Input Name:**	ControlModeEff	Mandatory ☐ Optional ☒

Description:

Input ControlModeEff is provided by a Shutters & Blinds Controller or FB SAB to indicate if manual or automatic control is currently active in the BlindsGroup.
This information can be used solely for visualization purposes, or to synchronize ControlModeUser values of multiple SSSB in the same zone, or for other purposes.

DPT:	Name	DPT_BlindsControlMode	DPT ID	20.804	Datatype format	N_8

Field	Description	Sup.	Unit	Default
ControlMode	This field shall indicate whether automatic control (0) or manual control (1) is currently active. Values 2 to 255 are reserved for future extensions	M	--	cs

Communication:

Binding Group:

Class	Type	Default
Geographical ☒	BuildingZone.Room.Subzone	cs (see parameter BlindsGroup)
Application Specific ☐		
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	800 (SAB)	Property ID:	54
LTE-Mode-Service (event): InfoReport ☒	InfoReport Sniffer on Binding Group:			--
	Timeout:	--	Min	
LTE-Mode-Service (polling): Read – Response ☐	Read Wildcard / Resp Sniffer on Binding Group:			--

Value after Powerup: Default Value ☒ Stored Value ☐

Exception Handling: Save at Powerdown ☐

--

Special Features:

ControlModeEff feedback from a Shutters & Blinds Controller is represented in the LTE-Mode runtime system as an InfoReport from a SAB. From the perspective of the SSSB the Shutters & Blinds Controller behaves like an actuator proxy to emulate traditional direct sensor – actuator communication.

1.5.10 Parameter-set BlindsGroup

BlindsGroup is implemented using the LTE-Mode Geographical zone concept. It consists of 3 properties belonging together.

1.5.10.1 Parameter BuildingZone

FB: SSSB	**Property Name (Server):**	BlindsGroup.BuildingZone			Mandatory ☒ Optional ☐
Description:					
Part of BlindsGroup parameter set mapped to LTE-Mode Geographical zone: -> BuildingEntity (Floor, Apartment, Building section etc.)					
DPT: Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
CounterValue	Number of the BuildingZone	M	1 to 126	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	 cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:				
DP Address:	IO Type(ID):	801 (SSSB)	Property ID:	101
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling:	Value after Powerup:	Stored Value ☒	Act Value ☐	Default Value ☐
--				

Special Features:
SSSB runtime Datapoints are not LTE-Mode communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService' also the corresponding Room and Subzone parameters are 'OutOfService' (common flag)

1.5.10.2 Parameter Room

FB: SSSB	Property Name (Server): BlindsGroup.Room	Mandatory ☒ Optional ☐

Description:

Part of BlindsGroup parameter set mapped to LTE-Mode Geographical zone:
-> Room within BuildingZone

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
CounterValue	Room number	M	1 to 63	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	 cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:

DP Address: (in the server)	IO Type(ID):	801 (SSSB)	Property ID:	102
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

SSSB runtime Datapoints are not LTE-Mode communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService' also the corresponding Room and Subzone parameters are 'OutOfService' (common flag)

1.5.10.3 Parameter Subzone

FB: SSSB	Property Name (Server): BlindsGroup.Subzone	Mandatory ☒ Optional ☐

Description:

Part of BlindsGroup parameter set mapped to LTE-Mode Geographical zone:
-> Subzone within BuildingZone.Room

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
CounterValue	Subzone number	M	1 to 15	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	 cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:

DP Address: (in the server)	IO Type(ID):	801 (SSSB)	Property ID:	103
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

SSSB runtime Datapoints are not LTE-Mode communicating if zone is 'OutOfService'. If parameter BuildingZone is 'OutOfService' also the corresponding Room and Subzone parameters are 'OutOfService' (common flag)

1.5.11 Parameter SSSBMode

FB: SSSB	Property Name (Server): SSSBMode	Mandatory ☐ Optional ☒

Description:

This parameter selects the basic behavior of the SSSB in regards to the push-button interface used to trigger control commands for shutter & blinds control. This parameter is meaningful if conventional push-buttons/switches are connected to the SSSB.
4 modes are so far defined; additional modes may be added in the future

DPT:	Name	DPT_SSSBMode	DPT ID	20.803	Datatype format	N_8

Field	Description	Sup.	Range	Unit	Default
n	- 1: one push button/binary input; *MoveUpDown inverts on each transmission => poor usability, not recommended* - 2: one push button/binary input, MoveUp / StepUp message sent - 3: one push button/binary input, MoveDown / StepDown message sent - 4: two push buttons/binary inputs mode		[1 to 4]	-	cs

Communication:

DP Address: (in the server)	IO Type(ID):	801 (SSSB)	Property ID:	120
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

--

1.5.12 Parameter PBInterfNormalState

FB: SSSB	Property Name (Server): PBInterfNormalState	Mandatory ☐ Optional ☒

Description:

Defines normally open/closed behavior of the physical push-button interface

DPT:	Name	DPT_OpenClose	DPT ID	1.009	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
	- 0: normally open - 1: normally closed				

Communication:

DP Address: (in the server)	IO Type(ID):	801 (SSSB)	Property ID:	121
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

1.5.13 Parameter TimeLongKeypress

FB: SSSB	**Property Name (Server):**	TimeLongKeypress			Mandatory ☐ Optional ☒
Description:					
Time to detect long key press 0,3s to 7s to change SSSB from stepping to moving commands					
DPT: Name	DPT_TimePeriod100Msec	DPT ID	7.004	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
value	Time indication with 100ms resolution		300 to 7000	ms	cs

Communication:				
DP Address: (in the server)	IO Type(ID):	801 (SSSB)	Property ID:	122
	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling:	Value after Powerup:	Stored Value ☒	Act Value ☐	Default Value ☐
--				
Special Features:				
--				

1.5.14 Parameter EnableBlindsMode

PID: 51

Detailed specifications see [01].

2 FB Wind Sensor (WS)

2.1 Aims and objectives

The functionality of FB Wind Sensor is to detect strong wind and to provide WindAlarm information with the purpose to move the sunblind to a secure position in case of strong wind and to block it for any further control.

2.2 Functional specification

The physical implementation of the wind sensor is manufacturer specific.

If the Wind Sensor detects strong wind then it will notify WindAlarm(true) otherwise WindAlarm(false).

The distribution of WindAlarm information in the system shall be event-driven and in addition be repeated periodically. The heartbeat-repetition time is either fixed or may be configurable by parameter HeartbeatPeriod.

In the LTE-Mode runtime system WindAlarm information is provided by FB WS using LTE-Mode InfoReport mechanisms in a dedicated OutsideSensorZone.

2.3 Functional Block diagram

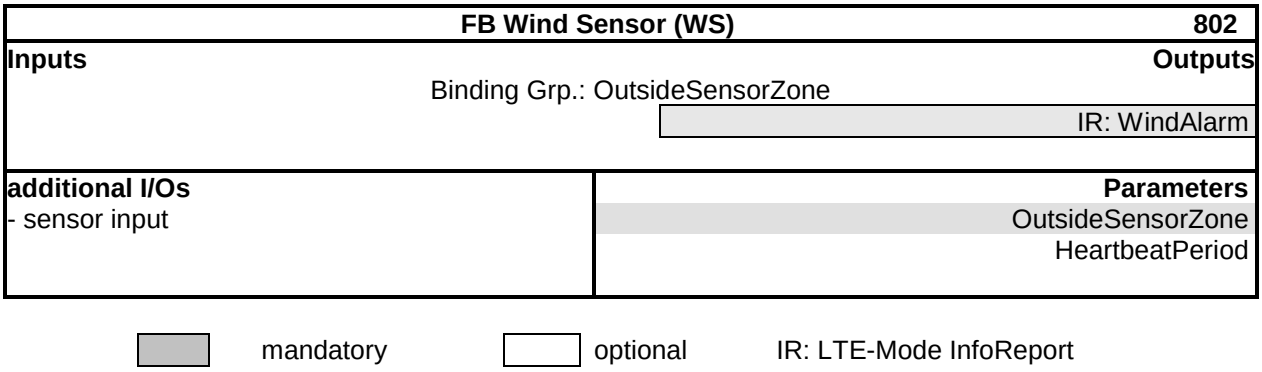

Figure 8 – Functional Block Diagram for FB Wind Sensor

2.4 Datapoints

Datapoint	Description	Datapoint Type	WS PID
Outputs			
WindAlarm	Wind alarm status indication from the Wind Sensor	DPT_Alarm (1.005)	PID 51
Inputs			
none			
Parameters			
OutsideSensorZone	LTE-Mode Zone to distribute Wind Alarm information	DPT_UcountValue8_Z (202.002)	PID 101
HeartbeatPeriod	Parameter to define the heartbeat repetition time for WindAlarm	DPT_TimePeriodSec (7.005)	PID 111

Table 3 - LTE-Mode specific Properties

		Support
Parameter	OutsideSensorZone	M

Table 4 - Standard Properties of Interface Object

		Support
Parameter	HeartbeatPeriod	O
Diagnostic Data	--	

2.5 Detailed specification of the Datapoints

2.5.1 Output WindAlarm

Standard Mode

DP Name:	WindAlarm	Abbr.:	---	Mandatory	☒
FB Name:	WS			Can be internal	☐

Description

Output WindAlarm indicates whether or not strong wind is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of strong wind and to block it for any further control as long as the WindAlarm persists.

Datapoint Type

DPT_Name:	DPT_Alarm		
DPT Format:	B_1	DPT_ID:	1.005

Field	Description	Supp.	Range	Unit	Default
b	This field shall indicate whether or not strong wind is detected	M	{0, 1}		--

Access Type

this → M	☒	this → 1	☐

Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec
		Cyclic	☒	Period:	10 min [1)]		
Request	☒						

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:	☒			☐

Exception Handling

Special Features

[1)] Heartbeat is either fixed or defined by parameter HeartbeatPeriod

LTE-Mode

FB: WS	**LTE-Mode Server Output Name:** WindAlarm	Mandatory ☒ Optional ☐

Description:

Output WindAlarm indicates whether or not strong wind is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of strong wind and to block it for any further control as long as the WindAlarm persists.

DPT:	Name	DPT_Alarm	DPT ID	1.005	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	This field shall indicate whether or not strong wind is detected	M	{0, 1}	--	Y	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	OutsideSensorZone	cs
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 802 (WS)	Property ID: 51
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ [2] MinRepTime: 10 sec Heartbeat: 10 [1] min	
	Output per default communicating ☒	Binding Group Wildcard allowed ☐
	Tx Prio: High ☐ Normal ☒ Low ☐	
	Transm after Powerup: Stored Value ☐ Act Value ☒ Default Value ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling:	Save at Powerdown ☐
--	

Special Features:

[1] Heartbeat is either fixed or defined by parameter HeartbeatPeriod

[2] Spontaneous transmission of WindAlarm in the LTE-Mode runtime is disabled if OutsideSensorZone is OutOfService. However the value of property WindAlarm is always accessible via Property Read service.

2.5.2 Parameter OutsideSensorZone

FB: WS	**Property Name (Server):** OutsideSensorZone	Mandatory ☒ Optional ☐

Description:

Number of the Outside Sensor Zone to be used for the binding of FB WS providing WindAlarm information in the LTE-Mode runtime system.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
SensorZone	Number of the sensor zone	M	1 to 31	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:

DP Address:	IO Type(ID):	802 (WS)	Property ID:	101
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

WS runtime output WindAlarm is not LTE-Mode communicating if zone is 'OutOfService'.

2.5.3 Parameter HeartbeatPeriod

FB: WS	**Property Name (Server):** HeartbeatPeriod	Mandatory ☐ Optional ☒

Description:

This parameter defines heartbeat period to update output WindAlarm if there is no change of value.

DPT:	Name	DPT_TimePeriodSec	DPT ID	7.005	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
TimePeriodSec	See above	M	cs	s	600

Communication:

DP Address:	IO Type(ID):	802 (WS)	Property ID:	111
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

--

3 FB Rain Sensor (RS)

3.1 Aims and objectives

The functionality of FB Rain Sensor is to detect rain and to provide RainAlarm information with the purpose to move the sunblind to a secure position in case of rain and to block it for any further control.

3.2 Functional specification

The physical implementation of the rain sensor is manufacturer specific.

If the Wind Sensor detects rain then it will notify RainAlarm(true) otherwise RainAlarm(false).

The distribution of RainAlarm information in the system shall be event-driven and in addition be repeated periodically. The heartbeat-repetition time is either fixed or may be configurable by parameter HeartbeatPeriod.

In the LTE-Mode runtime system RainAlarm information is provided by FB RS using LTE-Mode InfoReport mechanisms in a dedicated OutsideSensorZone.

3.3 Functional Block diagram

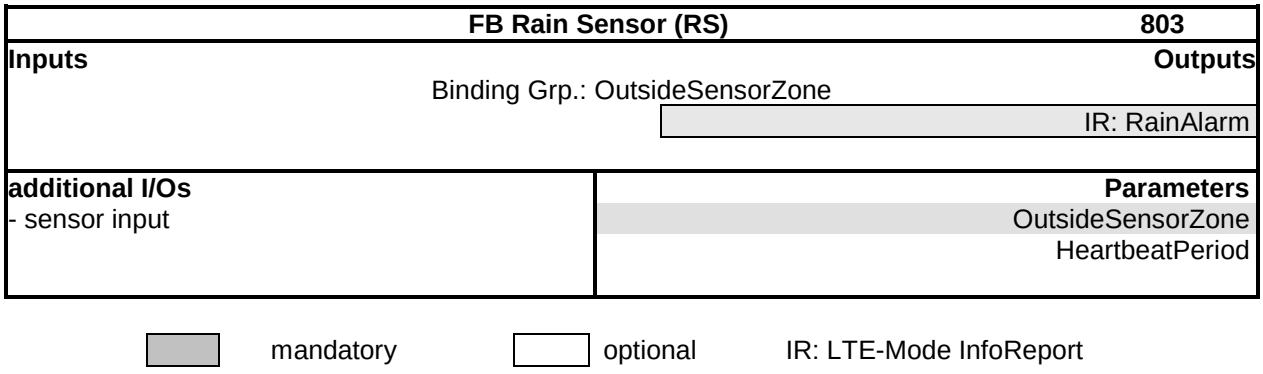

Figure 9 – Functional Block Diagram for FB Rain Sensor

3.4 Datapoints

Datapoint	Description	Datapoint Type	WS PID
Outputs			
RainAlarm	Rain alarm status indication from the Rain Sensor	DPT_Alarm (1.005)	PID 51
Inputs			
none			
Parameters			
OutsideSensorZone	LTE-Mode Zone to distribute Rain Alarm information	DPT_UcountValue8_Z (202.002)	PID 101
HeartbeatPeriod	Parameter to define the heartbeat repetition time for RainAlarm	DPT_TimePeriodSec (7.005)	PID 111

Table 5 - LTE-Mode specific Properties

		Support
Parameter	OutsideSensorZone	M

Table 6 - Standard Properties of Interface Object

		Support
Parameter	HeartbeatPeriod	O
Diagnostic Data	--	

3.5 Detailed specification of the Datapoints

3.5.1 Output RainAlarm

Standard Mode

DP Name:	RainAlarm	Abbr.:	---	Mandatory	☒
FB Name:	RS			Can be internal	☐

Description

Output RainAlarm indicates whether or not rain is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of rain alarm and to block it for any further control as long as the alarm persists.

Datapoint Type

DPT_Name:	DPT_Alarm		
DPT Format:	B_1	DPT_ID:	1.005

Field	Description	Supp.	Range	Unit	Default
b	This field shall indicate whether or not rain is detected	M	{0, 1}		--

Access Type

	this → M	☒	this → 1	☐			
	Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime: 10 sec
			Cyclic	☒	Period:	10 min [1)]	
	Request	☒					

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:	☒			☐

Exception Handling

Special Features

[1)] Heartbeat is either fixed or defined by parameter HeartbeatPeriod

LTE-Mode

FB: RS	**LTE-Mode Server Output Name:** RainAlarm	Mandatory ☒ Optional ☐

Description:

Output RainAlarm indicates whether or not rain is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of rain alarm and to block it for any further control as long as the alarm persists.

DPT:	Name	DPT_Alarm	DPT ID	1.005	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	This field shall indicate whether or not rain is detected	M	{0, 1}	--	Y	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	OutsideSensorZone	cs
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID): 803 (RS)	Property ID: 51
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ [2] MinRepTime: 10 sec Heartbeat: 10 [1] min	
	Output per default communicating ☒	Binding Group Wildcard allowed ☐
	Tx Prio: High ☐ Normal ☒ Low ☐	
	Transm after Powerup: Stored Value ☐ Act Value ☒ Default Value ☐	
Property-Service (individual access):	Read only ☒ Read/Write ☐	

Exception Handling:	Save at Powerdown ☐
--	

Special Features:

[1] Heartbeat is either fixed or defined by parameter HeartbeatPeriod

[2] Spontaneous transmission of RainAlarm in the LTE-Mode runtime is disabled if OutsideSensorZone is OutOfService. However the value of property RainAlarm is always accessible via Property Read service.

3.5.2 Parameter OutsideSensorZone

FB: RS	**Property Name (Server):** OutsideSensorZone	Mandatory ☒ Optional ☐

Description:

Number of the Outside Sensor Zone to be used for the binding of FB RS providing RainAlarm information in the LTE-Mode runtime system.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
SensorZone	Number of the sensor zone	M	1 to 31	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:

DP Address:	IO Type(ID):	803 (RS)	Property ID:	101
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

RS runtime output RainAlarm is not LTE-Mode communicating if zone is 'OutOfService'.

3.5.3 Parameter HeartbeatPeriod

FB: RS	**Property Name (Server):** HeartbeatPeriod	Mandatory ☐ Optional ☒

Description:

This parameter defines heartbeat period to update output RainAlarm if there is no change of value.

DPT:	Name	DPT_TimePeriodSec	DPT ID	7.005	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
TimePeriodSec	See above	M	cs	s	600

Communication:

DP Address:	IO Type(ID):	803 (RS)	Property ID:	111
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

--

Special Features:

--

4 FB Frost Sensor (FS)

4.1 Aims and objectives

The functionality of FB Frost Sensor is to detect rain and to provide FrostAlarm information with the purpose to move the sunblind to a secure position in case of frost and to block it for any further control.

4.2 Functional specification

The physical implementation of the frost sensor is manufacturer specific.

If the Frost Sensor detects frost then it will notify FrostAlarm(true) otherwise FrostAlarm(false).

The distribution of FrostAlarm information in the system shall be event-driven and in addition be repeated periodically. The heartbeat-repetition time is either fixed or may be configurable by parameter HeartbeatPeriod.

In the LTE-Mode runtime system FrostAlarm information is provided by FB FS using LTE-Mode InfoReport mechanisms in a dedicated OutsideSensorZone.

4.3 Functional Block diagram

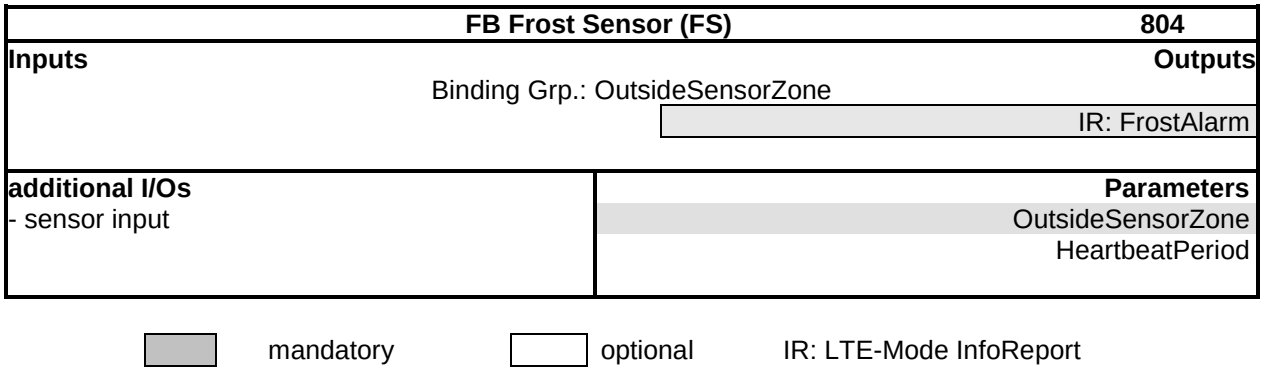

Figure 10 – Functional Block Diagram for FB Rain Sensor

4.4 Datapoints

Datapoint	Description	Datapoint Type	WS PID
Outputs			
FrostAlarm	Frost alarm status indication from the Frost Sensor	DPT_Alarm (1.005)	PID 51
Inputs			
none			
Parameters			
OutsideSensorZone	LTE-Mode Zone to distribute Frost Alarm information	DPT_UcountValue8_Z (202.002)	PID 101
HeartbeatPeriod	Parameter to define the heartbeat repetition time for FrostAlarm	DPT_TimePeriodSec (7.005)	PID 111

Table 7 - LTE-Mode specific Properties

		Support
Parameter	OutsideSensorZone	M

Table 8 - Standard Properties of Interface Object

		Support
Parameter	HeartbeatPeriod	O
Diagnostic Data	--	

4.5 Detailed specification of the Datapoints

4.5.1 Output FrostAlarm

Standard Mode

DP Name:	FrostAlarm			Abbr.:	---			Mandatory	☒		
FB Name:	FS							Can be internal	☐		
Description											
Output FrostAlarm indicates whether or not frost is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of frost alarm and to block it for any further control as long as the alarm persists.											
Datapoint Type											
DPT_Name:	DPT_Alarm										
DPT Format:	B_1					DPT_ID:	1.005				
Field	Description				Supp.		Range		Unit	Default	
b	This field shall indicate whether or not frost is detected				M		{0, 1}			--	
Access Type											
	this → M	☒	this → 1	☐							
	Spontaneous	☒	COV:	☒	Delta-Value:		MinRepTime:	10 sec			
			Cyclic	☒	Period:	10 min [1)]					
	Request	☒									
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:	☒				☐				
Exception Handling											

Special Features											
[1)] Heartbeat is either fixed or defined by parameter HeartbeatPeriod											

LTE-Mode

FB: FS	**LTE-Mode Server Output Name:** FrostAlarm	Mandatory ☒ Optional ☐

Description:

Output FrostAlarm indicates whether or not frost is detected. This information may be used for sunblind control to move the sunblind to a secure position in case of frost alarm and to block it for any further control as long as the alarm persists.

DPT:	Name	DPT_Alarm	DPT ID	1.005	Datatype format	B_1

Field	Description	Sup.	Range	Unit	COV	Default
b	This field shall indicate whether or not frost is detected	M	{0, 1}	--	Y	--

Communication:

Binding Group:

Class	Type	Default
Geographical ☐		
Application Specific ☒	OutsideSensorZone	cs
Unassigned ☐	Broadcast ☐ Configurable ☐	

DP Address:	IO Type(ID):	804 (FS)	Property ID:	51	
LTE-Mode-Services (event): InfoReport ☒ (LTE-Mode Read-Response polling of the output shall always be supported)	COV ☒ [2]	MinRepTime: 10 sec	Heartbeat: 10 [1] min		
	Output per default communicating ☒		Binding Group Wildcard allowed ☐		
	Tx Prio:	High ☐	Normal ☒	Low ☐	
	Transm after Powerup: Stored Value ☐	Act Value ☒	Default Value ☐		
Property-Service (individual access):	Read only ☒	Read/Write ☐			

Exception Handling: Save at Powerdown ☐

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Special Features:

[1] Heartbeat is either fixed or defined by parameter HeartbeatPeriod

[2] Spontaneous transmission of FrostAlarm in the LTE-Mode runtime is disabled if OutsideSensorZone is OutOfService. However the value of property FrostAlarm is always accessible via Property Read service.

4.5.2 Parameter OutsideSensorZone

FB: FS	**Property Name (Server):** OutsideSensorZone	Mandatory ☒ Optional ☐

Description:

Number of the Outside Sensor Zone to be used for the binding of FB FS providing FrostAlarm information in the LTE-Mode runtime system.

DPT:	Name	DPT_UcountValue8_Z	DPT ID	202.002	Datatype format	U_8Z_8

Field	Description	Sup.	Range	Unit	Default
SensorZone	Number of the sensor zone	M	1 to 31	--	cs
Status - OutOfService - all other flags	 zone active /inactive not supported, fixed to '0'	 O NA	 true/false	bitset	cs
Command - NormalWrite - SetOSV & ResetOSV - all other commands	 set zone inactive / active not supported	 M O NA		enum	

Communication:

DP Address:	IO Type(ID):	804 (FS)	Property ID:	101
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

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Special Features:

FS runtime output FrostAlarm is not LTE-Mode communicating if zone is 'OutOfService'.

4.5.3 Parameter HeartbeatPeriod

FB: FS	**Property Name (Server):** HeartbeatPeriod	Mandatory ☐ Optional ☒

Description:

This parameter defines heartbeat period to update output FrostAlarm if there is no change of value.

DPT:	Name	DPT_TimePeriodSec	DPT ID	7.005	Datatype format	U_{16}

Field	Description	Sup.	Range	Unit	Default
TimePeriodSec	See above	M	cs	s	600

Communication:

DP Address:	IO Type(ID):	804 (FS)	Property ID:	111
(in the server)	Start-Index:	1	N° of elements	1
Property access:	Read only ☐		Read/Write ☒	
Protection	Read level	--	Write level	--

Exception Handling: Value after Powerup: Stored Value ☒ Act Value ☐ Default Value ☐

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Special Features:

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