Application Descriptions

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Common Functional Blocks

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Common schedulers and controllers

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Summary

This document specifies the schedulers, like time- or event schedulers and controllers, like scene controllers, for the KNX system.

Version 01.02.02 is a KNX Approved Standard.

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

Document updates

Version	Date	Modifications
v0.1	2006.12.12	Document creation. FB Scheduler integrated.
v0.2	2007.01.15	FB Scene Controller integrated
	2007.05.22	TF Editing: review of FB Scene Controller.
	2007.09.26	Update according WGI feedback of 2007.09.26.
v0.3	2008.03.17	Preparation of the WGI approved version.
v0.4	2008.08.09	**AN106 "Phasing out TP0"** integrated. **AN107 "Phasing out LT-R"** integrated. **AN108 "Phasing out LT-S"** integrated. **AN109 "Phasing out PL132"** integrated. **AN110 "Phasing out A-Mode"** integrated.
v0.5	2009.04.27	Editorial update in preparation of inclusion in KNX Specifications v2.0.
01.02.01	2013.09.04	• **AN150 "FB Profiles for existing FBs"** integrated.
01.02.02	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[01] Chapter 3/7/1 "Interworking Model"
[02] Chapter 3/7/2 "Datapoint Types"
[03] Chapter 6/30/1 "Runtime Profiles"
[04] Chapter 7/1/1 "System Clock"

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Contents

Abbreviations

Datapoints:

EVn	EVent nr. n
IVn	Input Value nr. n
OAn	Output Action nr. n
SABA	Scene AB Activate
SABL	Scene AB Learn
SC	Scene Control
SN	Scene Number

Parameters:

SFSN	Storage Function for Scene
SLME	Scene Learning Mode Enable

1 FB Scheduler

1.1 Aims and objectives

The FB Scheduler shall be used to execute schedules triggered by write access to one of its Event Inputs or by internal events.

1.2 Functional specification

1.2.1 Basic event handling

If a value is received on an Input Event, the scheduler shall transmit the value of one or more of its Outputs according the parameter values corresponding to the respective Input and Outputs.

The transmission can be delayed.

1.2.2 Number of events

The Input Event shall be implemented at least once (Input Event 1) and up to any number of instances (Inputs Event 2 up to Event v).

Every Input Event shall be encoded according DPT_Scene_AB (1.022) and shall be handled as one single independent event.

The Input Event shall be implemented as many times as independent events need to be supported. If more than one Input Event is implemented, then this may influence the internal coding of the parameters (see below). Any Output can be affected by one, multiple or all events.

If only one Input is wanted, with a value holding an event number instead of a single trigger, then this is modelled according a FB Scene Controller.

1.2.3 Parameters

The Parameters for this Functional Block are not standardised. They may control the following:

a) whether or not the value of a certain Output n is transmitted
b) the value that shall be transmitted for this Output
c) possible delays before the transmission of this Output.

They can be modelled according the below given examples.

EXAMPLE 1 Parameter example 1 (informative)

Output Nr. (= index in table)	**Output active?**	**Output Value**	**Output Delay**
0	yes	1b	0 s
1	no	-	-
2	no	-	-
3	yes	3Fh	1 s

EXAMPLE 2 Parameter example 2 (informative)

Output nr	**Output Value**	**Output Delay**
0	1b	0 s
3	3Fh	1 s

1.2.4 DPT of the Outputs

The Datapoint Type of the Outputs is not specified in this document. This can be any standard DPT as specified in [02]. The “usage limitations” of the chosen DPT, as specified in [01] apply.

NOTE - For implementation in E-Mode channels, the Datapoint Type can be any format up to 16 bit. This limit of 16 bit comes from the storage of the value to be send (parameter table).

1.3 Constraints

1.3.1 Autonomous and internal events

It is possible that events are generated internally within the device.

EXAMPLE 1 The trigger for this event can be given by a hardwired input.

EXAMPLE 2 The trigger for this event is given by an Output from another FB that is combined with this FB Scheduler in the same device.

1.3.2 Date and time schedulers

It is possible that the events are generated internally by a date- and time scheduler within the device. To this purpose, this FB Scheduler can be combined with a FB System Clock, configured as System Clock slave as specified in [04].

The time scheduler in the FB System Clock is not standardised.

The Event is a device internal value.

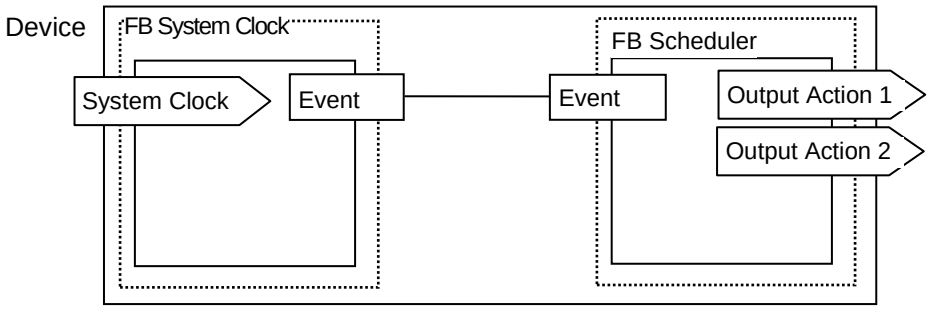
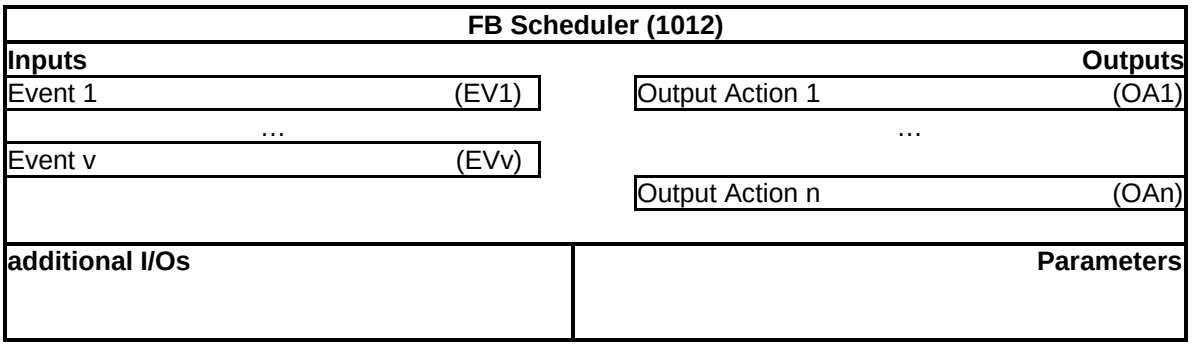


Figure 1 – Example of a possible time scheduler

The parameters for specifying the time schedule are not specified in this paper, but in the E-Mode channel specifications.

The FB Scheduler does not perform any action after bus power up. If a time scheduler needs to performs certain actions on bus power up, concerning time- or date-events that have happened during bus power down, then this is not modelled by the FB System Clock, neither by the FB Scheduler, but only by the in-between “calendar program” (E-Mode parameters), which are not modelled.

1.4 Functional Block diagram



1.5 Datapoint description

Table 1 – Datapoint overview

Datapoint	Abbr.	Description	Datapoint Type
Inputs			
Event 1	EV1	To trigger the execution of a schedule.	1.022 DPT_Scene_AB
…	…	…	…
Event v	EVn	To trigger the execution of a schedule.	1.022 DPT_Scene_AB
Outputs			
Output Action 1	OA1	Datapoint 1 of which the value can be transmitted when the event is triggered.	See 1.2.4.
…	…	…	…
Output Action n	OAn	Datapoint n of which the value can be transmitted when the event is triggered.	See 1.2.4.

1.5.1 Runtime Interworking – Dependence on Configuration Mode

		Basic FB	STANDARD MODE	EXTENDED MODE	
			S-Mode	Standard Mode Interface	LTE-HEE
Inputs	**EV1**	**(GO)**	**(GO)**	**-**	**-**
	EVv	**(GO)**	**(GO)**	**-**	**-**
Outputs	**OA1**	**GO_b**	**GO**	**-**	**-**
	OAn	**(GO)**	**(GO)**	**-**	**-**

1.6 Detailed specification of the Datapoints

1.6.1 Input Event v

DP Name:	Event v	Abbr.:	EVv	Mandatory	☒
FB Name:	1012 FB Scheduler			Can be internal	☒

Description

This Input shall be used to trigger an event.
This Input can be purely internal (in case this FB is implemented together with another FB or if this trigger is hardwired), or can be implemented once up to any number of times. The total number of Inputs of this type is implementation specific.
If this Input is written, the FB Scheduler shall transmit the value of one or more of its Outputs "Output Action n", under the control of the schedule laid down in the parameters, as described in 1.2.3.
This Input shall be encoded according DPT_Scene_AB (1.022): the interpretation **can** be dependent of the value (0 or 1) that is received.

NOTE If no differentiation is made in function of the received value, then the Input is actually handled as a DPT_Trigger (1.017).

Datapoint Type

DPT_Name:	DPT_Scene_AB				
DPT Format:	B_1		DPT_ID:	1.022	
Field		Supp.	Range	Unit	Default
b	Triggers the event.	M	{0, 1}	-	0

Access Type

♦ Input

N → this	☒	1 → this	☐		
Spontaneous	☒	Cyclically:	☐	Time-out:	
Request	☐	Polling:	☐	Period:	

Communication Type

♦ Group Object Datapoint				Mandatory:	☐
Default Group Address:	---				
♦ Interface Object Property Datapoint				Mandatory:	☐
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		

Dynamics

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

Exception Handling

Special Features

1.6.2 Output Action n

DP Name:	Output Action n	Abbr.:	OAn	Mandatory	☒
FB Name:	FB Scheduler			Can be internal	☒

Description

The Output Action n can be implemented

- not at all
  In this case, the Output is a pure device internal signal, possibly processed by other FBs or by hardwired connections.
- be implemented once
  This Output "Output Action 1"
- or be implemented any further number of times.
  These are the instances "Output Action 2" to "Output Action n".

The total number of Outputs of this type that are realised is implementation specific.
When the event is triggered, the FB Scheduler shall transmit through this Output a value, under the control of the parameters, as described in 1.2.3.

Datapoint Type

DPT_Name:	Not applicable.				
DPT Format:	See 1.2.4.	DPT_ID:	Not applicable.		
Field		Supp.	Range	Unit	Default
Not applicable.					

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.

2 FB Scene Controller

2.1 Aims and objectives

The FB Scene Controller shall be used to activate or to save scenes.

The implementation of this functionality is not restricted to push buttons only. It may for instance be implemented in a larger controller, scheduler or gateway.

2.2 Functional specification

2.2.1 Basic handling

If a value with a given scene number and the request ‘recall scene’ is received on the Input Scene Control, the FB Scene Controller shall transmit the scene values of this scene to one or more Outputs according to the parameter values of the recalled scene number.

If a value with a given scene number and the request ‘learn scene’ is received on the Input Scene Control, the values of the Input Datapoints IV1 to IVn shall be saved internally. It is up to the manufacturer:

- to obtain up-to-date values of the Scene Controller’s Inputs (IV1 to IVn) by transmitting one or more A_GroupValue_Read-PDUs to
  - the status- or feedback Output Datapoints from the relevant actuator Functional Blocks, or
  - the Inputs from the actuator Functional Blocks [1)].

  and evaluating the A_GroupValue_Response-PDUs.

and/or

- to rely on the spontaneous feedback of the relevant actuator Functional Blocks (A_GroupValue_Write-PDU is evaluated) [2)].

In case that Input Datapoints IV1 to IVn are not implemented the Output Datapoints OA1 – OAn may be used for learning scenes [3)].

1) This solution is not recommended, as it assumes bidirectional Inputs in the actuator.
2) This is the solution used at time in EASY-Channels.
3) This solution is not recommended, as it assumes bidirectional Outputs in the FB Scene Controller.

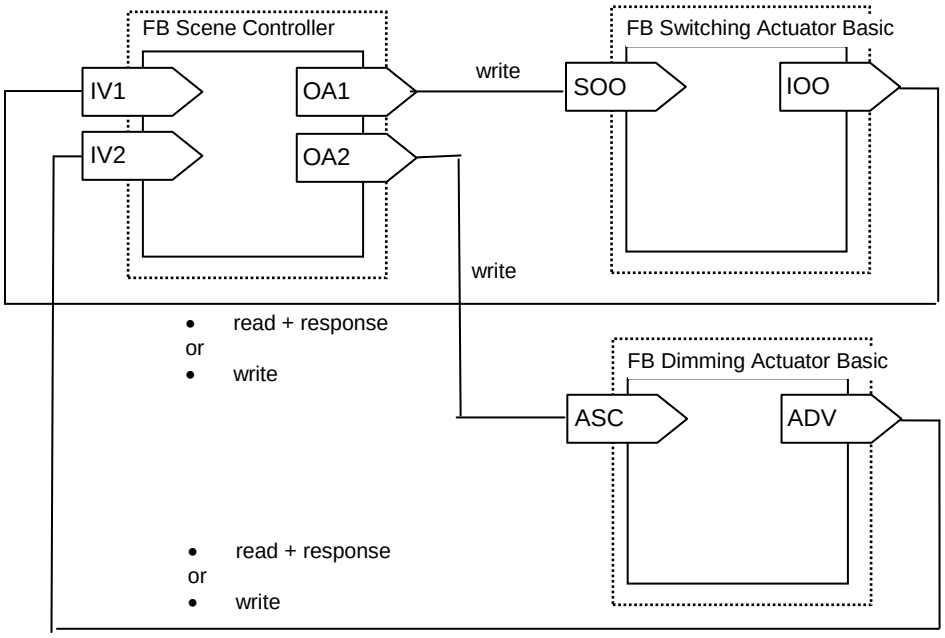


Figure 2 – Communication between Scene Controller and actuators (example)

2.2.2 Number of Outputs

The number of Outputs shall at least be one and up to any number of instances (Output 2 up to Output n).

It is not necessary that an Output must be part of all projected scenes.

2.2.3 Parameters for storing scene configuration

The Parameters for storing the scene configuration for this FB Scene Controller are not standardised. They may control the following:

a) whether or not the value of a certain Output is transmitted
b) the value that shall be transmitted for this Output
c) possible delays before the transmission of this Output.

They can be modelled according the below given examples.

EXAMPLE 1 Parameter example 1 (informative)

This example shows the parameter information for one scene. Other scenes have a similar table. Some Outputs are not active; the values are 1 octet.

Output Nr. (= index in table)	**Output active?**	**Output Value**	**Output Delay**
0	yes	7Fh	1 s
1	no	-	-
2	no	-	-
3	yes	10h	2 s

EXAMPLE 2 Parameter example 2 (informative)

This example shows the parameter information for one scene. Other scenes have a similar table. All Outputs are active; the values are 1 bit.

Output Nr. (= index in table)	**Output active?**	**Output Value**	**Output Delay**
0	yes	01h	1 s
1	yes	00h	-
2	yes	01h	-
3	yes	01h	2 s

2.2.4 Parameters for scene control

With the optional Input “Scene Number” (SN) it shall be possible to call a maximum number of 64 different scenes in the FB Scene Controller. The maximum number of scenes that can be called can optionally be lower than 64.

With the optional Input “Scene Control” (SC) it shall be possible, to call and store a maximum of 64 different scenes in the FB Scene Controller. The maximum number of scenes that can be stored and called can optionally be lower than 64.

“Scene Number” and “Scene Control” shall use the same scene numbers. Scene n called through “Scene Number” shall be the same as scene n called through “Scene Control”.

The maximum number of scenes that can be called and the maximum number of scenes that can be stored may differ. An access to either SN or SC with a scene number not supported by that DP shall be ignored.

The parameters for storing the scene configuration define the values for the Outputs for the scene number contained in the Inputs SN and SC.

Some standard parameters are foreseen for enabling the learning of scenes either in general for the entire Functional Block (SLME) or separately for each individual scene number (SFSN).

Via a parameter “Scene Learning Mode Enable” (SLME), it shall be possible to activate or deactivate the Scene Learning Mode for the entire FB Scene Controller.

The parameter “Storage Function For Scene Number” (SFSN) shall be an array of maximum 64 elements of DPT_Enable. Each array element specifies whether or not the learning of the scene with scene number equal to the array index is disabled (0) or enabled (1). The number field in the Input SC shall address the element of the array. If enabled, the addressed FB Scene Controller shall learn (store) the current values of its Inputs that are related through the implementation specific parameters to the contained scene number.

The dependencies between SLME and SFSN are specified in 2.6.2.

2.2.5 DPT for the Inputs IVn and the Outputs OAn

The Datapoint Types of these Inputs and Outputs are not specified in this document. This can be any standard DPT as specified in [02]. The “usage limitations” of the chosen DPT, as specified in [01] apply.

Examples of Scene Controllers:

Lighting Scene Controller: Inputs and Outputs are either of DPT_Switch (1.001) or DPT_Scaling (5.001) to recall and save switching status or brightness values.

Shutter & Blinds Scene Controller: Inputs and Outputs are of DPT_Scaling (5.001) to recall and save blinds - and slat positions.

NOTE - For implementation in E-Mode channels, the Datapoint Type can be any format up to 16 bit. This limit of 16 bit comes from the storage of the value to be sent (parameter table).

2.3 Constraints

2.3.1 Internal Scenes

It is possible that scenes are generated internally within the device.

EXAMPLE 1 The trigger for calling and learning a scene can be given by a hardwired input (e.g. the FB Scene Controller is implemented in a push button).

2.3.2 Handing of not initialised Input values

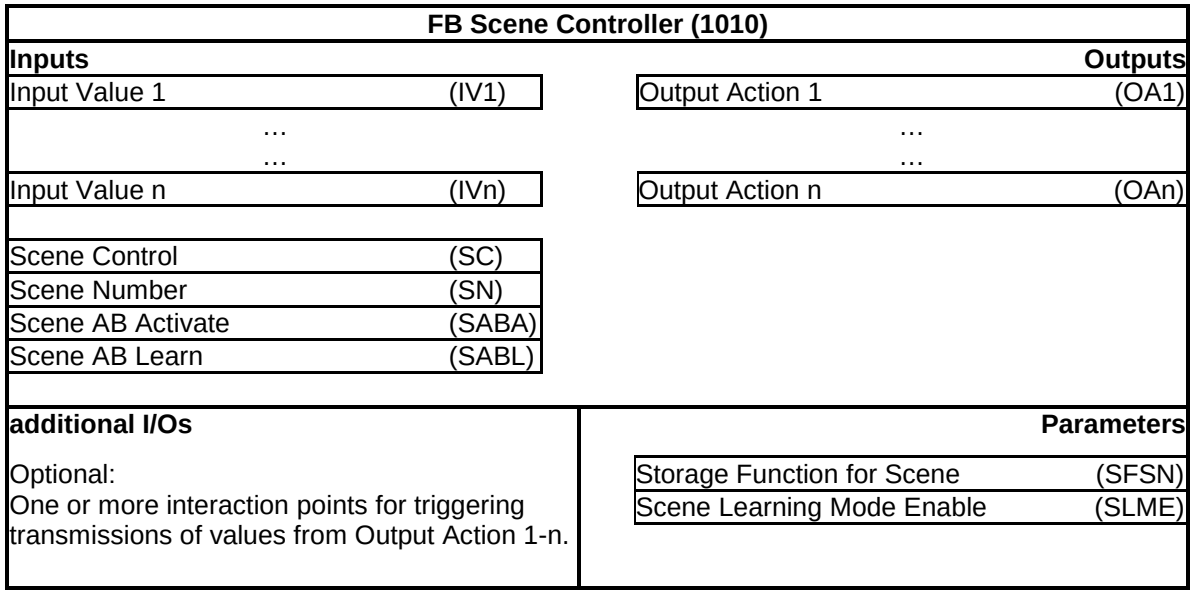
It may be that it is requested that a scene is learned using one or more values of Input Value(s) that have not yet been initialised by reception of values from the communication partners.

It is recommended that this is properly handled. This can be done by any of the following.

- The parameters for the scene configuration may store a default value for the Outputs that shall be used if the corresponding Input(s) have not yet been initialised.
- The Output requiring the value of a not initialised Input can be skipped in the execution of the scene.

Other solutions are possible as well.

2.4 Functional Block diagram



2.5 Datapoint description

Table 2 – Datapoint overview

Datapoint	Abbr.	Description	Datapoint Type
Inputs			
Input Value 1	IV1	To receive the value for learning scenes.	See 2.2.5.
…	…	…	
Input Value n	IVn	To receive the value for learning scenes.	See 2.2.5.
Scene Control	SC	To call or learn a scene identified by the contained scene number.	DPT_SceneControl (18.001)
Scene Number	SN	To call a scene identified by the contained scene number.	DPT_SceneNumber (17.001)
Scene AB Activate	SABA	To call one out of two scenes.	DPT_Scene_AB (1.022)
Scene AB Learn	SABL	To learn one out of two scenes.	DPT_Scene_AB (1.022)
Outputs			
Output Action 1	OA1	Datapoint 1 of which the value can be transmitted when a given scene number is received.	See 2.2.5.
…	…	…	…
Output Action n	OAn	Datapoint n of which the value can be transmitted when a given scene number is received.	See 2.2.5.
Parameters			
Storage Function for Scene	SFSN	Enabling memory storage for a received scene number.	1.003 DPT_Enable
Scene Learning Mode Enable	SLME	Enables or disables globally for all scene numbers the learning of new scenes, regardless of the value of SFSN.	1.003 DPT_Enable

2.5.1 Runtime Interworking – Dependence on Configuration Mode [4)]

Features and options	Basic FB	*Standard Mode*			
		FB profile 1	FB profile 2	FB profile 3	FB profile 4
// scene control Inputs					
SABA	O	GO	GO	(GO)	(GO)
SABT	O	(GO)	GO	(GO)	(GO)
SN	O	(GO)	(GO)	GO	(GO)
// Full Scene Control					
SC	O	(GO)	(GO)	(GO)	GO
IF Scene Teaching can be disabled					
STE	O	O	O	O	M
// Inputs					
IV1	O	(GO)	(GO)	(GO)	(GO)
…	…	…	…	…	…
IVn	O	(GO)	(GO)	(GO)	(GO)
// Outputs					
OA1	M	GO	GO	GO	GO
OA2	O	(GO)	(GO)	(GO)	(GO)
…	O	(GO)	(GO)	(GO)	(GO)
OAn	O	(GO)	(GO)	(GO)	(GO)

FB Profiles 1 and 2 use DPT_Scene_AB for activating and learning the receivers. The number of scenes is by this limited to two. These Outputs are mainly modelled for compatibility with E-Mode channel specifications. For S-Mode realisations, these flavours are not recommended.

4) Please refer to [03] for the definition of the syntax and symbols used in this FB Profile definition.

2.6 Detailed specification of the Datapoints

2.6.1 Input “Input Value n”

DP Name:	Input Value n	Abbr.:	IVn	Mandatory	☐
FB Name:	FB Scene Controller			Can be internal	☐

Description
The Inputs “Input Value 1” to “Input Value n” shall be used to receive or read the values of the linked Outputs of the communication partners. These Inputs can either get their value spontaneously by reception of an A_GroupValue_Write-PDU, or on request by issuing an A_GroupValue_Read-PDU themselves and evaluating the answer in the received A_GroupValue_Response-PDU. See 2.2.1.

Datapoint Type			
DPT_Name:	Not applicable.		
DPT Format:	See 2.2.5.	DPT_ID:	Not applicable.

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 (not for input):	☐
		Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling
None.

Special Features
None.

2.6.2 Input Scene Control

DP Name:	Scene Control	Abbr.:	SC	Mandatory	☐
FB Name:	FB Scene Controller			Can be internal	☐

Description

The Input Scene Control shall be used to recall or learn the Output value related to encoded scene number.
Up to 64 scene numbers (0 … 63) can be assigned to the FB Scene Controller (see parameters) [a].
If none of the parameters SLME or SFSN is implemented, then the DP Scene Control shall be supported in full: it shall be possible to call and learn all of the supported scene numbers.
If one or both of the parameters SLME or SFSN is implemented, then the request to learn a scene n, this is an access to DP Scene Control with a value of the field B = 1 and the scene number n in the field U - shall function as follows:

SLME	SFSN(array element n)		
	Not implemented	**Disable (= 0)**	**Enable (= 1)**
Not implemented	Learn	Ignore	Learn
Disable (= 0)	Ignore	Ignore	Ignore
Enable (= 1)	Learn	Ignore	Learn

Datapoint Type

DPT_Name:	DPT_SceneControl		
DPT Format:	$B_1r_1U_6$	DPT_ID:	18.001

Field		Supp.	Range	Unit	Default
C	Shall indicate whether the contained scene number shall be learned or called.	M	{0, 1}	none	none
r	Reserved field. Shall be zero.	M	0	none	none
SceneNumber	Scene number.	M	{0…63}	none	none

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 (not for input):	☐
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

[a] An application may support less than the maximal encodable number of 64 scenes. In the case, if a scene is learned or called with a scene number that is not supported, the application shall not react. It is recommended that the supported scene numbers start with 0 and are numbered continuously without gaps up to the maximal supported scene number.

Special Features

2.6.3 Input Scene Number

DP Name:	Scene Number	Abbr.:	SN	Mandatory	☐
FB Name:	FB Scene Controller			Can be internal	☐

Description

The Input Scene Number shall be used to recall the output value related to encoded scene number.
Up to 64 scene numbers (0 … 63) can be assigned to the FB Scene Controller (see parameters) [a)].

Datapoint Type

DPT_Name:	DPT_SceneNumber		
DPT Format:	r_2U_6	DPT_ID:	17.001

Field		Supp.	Range	Unit	Default
r	Reserved field. Shall be zero.	M	0	none	none
SceneNumber	Scene number to be called	M	{0…63}	none	none

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 (not for input):	☐
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

[a)] An application may support less than the maximal encodable number of 64 scenes. In the case, if a scene is called with a scene number that is not supported, the application shall not react.
It is recommended that the supported scene numbers start with 0 and are numbered continuously without gaps up to the maximal supported scene number.

Special Features

None.

2.6.4 Input Scene AB Activate

DP Name:	Scene AB Activate	Abbr.:	SABA	Mandatory	☐
FB Name:	FB Scene Controller			Can be internal	☐

Description
This Input shall be used to activate one out of two possible scenes. The use of this DP is not recommended for S-Mode applications. DP Scene Number should be used instead.

Datapoint Type			
DPT_Name:	DPT_Scene_AB		
DPT Format:	B_1	DPT_ID:	1.022

Field		Supp.	Range	Unit	Default
b	Shall indicate which of the scenes A or B shall be called.	M	{0, 1}	none	None

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 (not for input):	☐
	Transmit on bus (only for output):		☐	Read from bus (only for input):	☐

Exception Handling

None.

Special Features

None.

2.6.5 Input Scene AB Learn

DP Name:	Scene AB Learn	Abbr.:	SABL	Mandatory	☐
FB Name:	FB Scene Controller			Can be internal	☐

Description
This Input shall be used to learn one out of two possible scenes. The use of this DP is not recommended for S-Mode applications. DP Scene Control should be used instead.

Datapoint Type			
DPT_Name:	DPT_Scene_AB		
DPT Format:	B_1	DPT_ID:	1.022

Field		Supp.	Range	Unit	Default
b	Shall indicate which of the scenes A or B shall be learned.	M	{0, 1}	none	none

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 (not for input):		☐
	Transmit on bus (only for output):		☐	Read from bus (only for input):		☐

Exception Handling

None.

Special Features

None.

2.6.6 Output Action n

DP Name:	Output Action n	Abbr.:	OAn	Mandatory	☒ a)
FB Name:	FB Scene Controller			Can be internal	☐

Description							
There shall be at least one implementation of this Output “Output Action n” (“Output Action 1”). There can be any further number of instances of this Output (“Output Action 2” to “Output Action n”). The total number of Outputs of this type that are realised is implementation specific. When a scene number is triggered, the FB Scene Controller shall transmit through this Output a value, under the control of the parameters, as described in 1.2.3.							
Datapoint Type							
DPT_Name:	Not applicable.						
DPT Format:	See 2.2.5.			DPT_ID:	Not applicable.		
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							
a) At least one Output “Output Action n” shall be implemented.							

2.6.7 Parameter Storage Function for Scene

FB:	FB Scene Controller	Property Name (Server):	Storage Function for Scene	Mandatory ☐ Optional ☒

Description:

Enabling memory storage for a received scene number.
Please refer to the Functional Specification in 2.2.4 for the specification of this Parameter.

DPT:	Name	DPT_Enable[]	DPT ID	1.003	Datatype format	B_1

Field	Description	Sup.	Range	Unit	Default
b	0 = It is not possible to learn the scene with scene number equal to the array index of this array element. 1 = It is possible to learn the scene with scene number equal to the array index of this array element, optionally under the further, common control of SLME.	M	{0,1}	-	cs

Communication:

DP Address: (in the server)	object_type:	1010	PID:	51
	start_index:	1	nr_of_elem:	≤ 64
Property access:	Read only ☐	Read/Write ☒		
Protection	Read level	-	Write level	-

Exception Handling: Value after Power-up: Stored Value ☒ Act Value ☐ Default Value ☐

Special Features:

It is allowed to implement the array with less than the given number of 64 elements.

2.6.8 Parameter Scene Learning Mode Enable

DP Name:	Scene Learning Mode Enable	**Abbr.:**	SLME	**Mandatory**	☐
FB Name:	FB Scene Controller			**Can be internal**	☐

Description

Via this parameter DP, it shall be possible to activate or deactivate the Scene Learning Mode (e.g. to prevent unauthorised modification of scenes). If the value of this DP is Enabled, it shall be only possible to store the scenes, for which the corresponding bit in the parameter SFSN is set to “Enable learning”. This DP shall be implemented as Group Object.

DP Type

DPT_Name:	DPT_Enable					
DPT Format:	B_1			**DPT_ID:**	1.003	
Field:	**Description:**	**Supp.:**	**Range:**	**Unit:**	**Resol.:**	**Default:**
b	Enabling scene learning	M	{0,1}	none	none	none

Access Type

♦ **Input**

N → this	☐	1 → this	☒			
Spontaneous	☒	Cyclically:	☐	Time-out:	no	
Request	☐	Polling:	☐	Period:		

Communication Type

Group Object DP		**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.