



Application descriptions

7

Lighting

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Lighting channels

11

Summary:

This document provides the specification of the E-Mode channels in the application domain Lighting.

Version 01.00.01 is a KNX Approved Standard.

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

Document updates

Version	Date	Modifications
v01	2007.09.27	Document creation. <ul style="list-style-type: none">• S12 “Channel Codes” integrated.
	2007.10.02	• AN050 “AN to Supplement 12” integrated.
	2007.10.18	• AN087 “New Channels 2005.02” integrated.
	2008.05.09	• AN076 “Localisation Easy Actuators” integrated: insertion of LA-flag as specified in AN076.
v1.0	2009.06.26	• Update in view of publication in the KNX Specifications v2.0.
v1.0	2009.06.26	• Update in view of publication in the KNX Specifications v2.0.
01.00.01	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[01] Chapter 7/20/1 “Lighting Sensors”

Filename: 07_20_11 Lighting Channels v01.00.01 AS.docx
Version: 01.00.01
Status: Approved Standard
Savedate: 2013.10.29
Number of pages: 67

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1 Introduction

1.1 Overview of the application

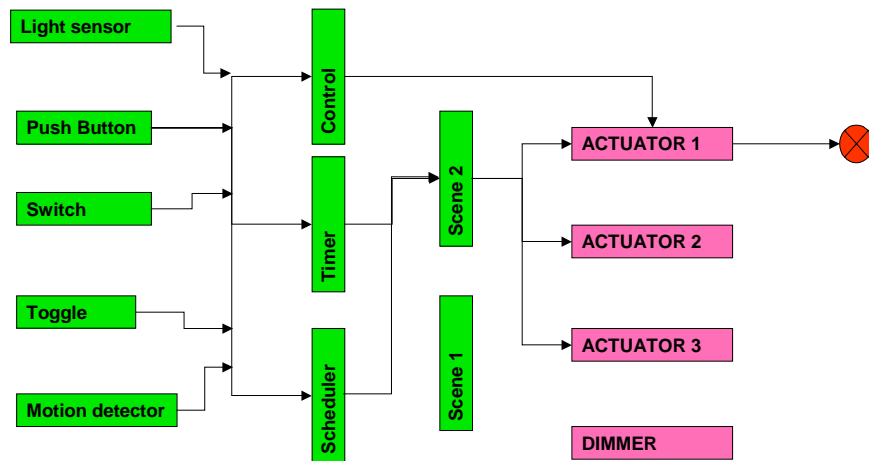


Figure 1 – The application “Lighting”

1.2 Support of scenes

For Scene Number Datapoints, it is mandatory to deal at least with numbers from 1 to 8 (coded 0 to 7). It is allowed to deal with higher values. This shall thus be as specified in Table 1.

Table 1 – Scene numbering and coding in E-Mode Channels

Scene number	Scene letter	Coding
1	A	xx000000b
2	B	xx000001b
3	C	xx000010b
4	D	xx000011b
5	E	xx000100b
6	F	xx000101b
7	G	xx000110b
8	H	xx000111b

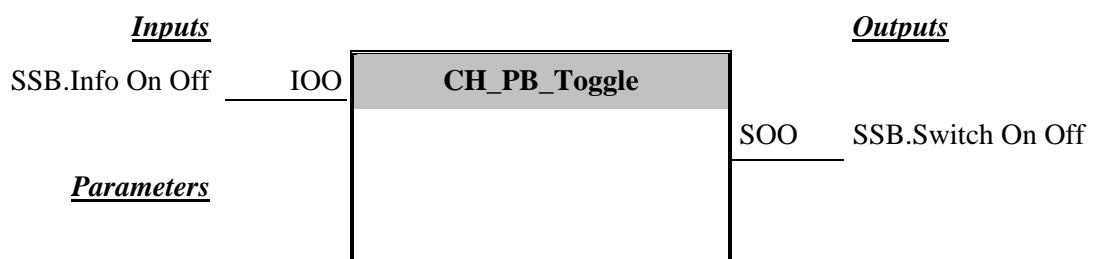
1.3 Channel overview

Channel Code	Channel Name
0002h	CH_PB_Toggle
0003h	CH_PB_Timed
0004h	CH_PB_Timed_Info
0005h	CH_PB_Dimmer
0006h	CH_PB_Dimmer_Toggle
0007h	CH_PB_Scene_Numbered
0008h	CH_PB_Scene
0009h	CH_Switch
000Ah	CH_Switch_Info
000Bh	CH_Switch_Forced
000Ch	CH_Switch_Dimmer
000Dh	CH_Switch_Dimmer_Info
000Eh	CH_Switch_Dimmer_Toggle
000Fh	CH_Switch_Scene_Numbered
0010h	CH_Switch_Scene
0011h	CH_Light_Setpoint_Controller
0012h	CH_Light_Sensor
0013h	CH_Motion_Detector_Basic
0014h	CH_Motion_Detector_Complex
001Eh	CH_Switch_Operation_Mode
0020h	CH_PushButton
0100h	CH_Status_Info
0101h	CH_Binary_Actuator_Basic
0102h	CH_Light_Actuator_Complex
0103h	CH_Light_Actuator_Scene
0104h	CH_Light_Actuator_Controlled
0105h	CH_Dimming_Actuator_Basic
0106h	CH_Dimming_Actuator_Complex
0107h	CH_Dimming_Actuator_Scene
020Ah	CH_LightSensor_Slave
020Bh	CH_Light_Setpoint_Controller_Info

2 Channels Lighting

2.1 CH_PB_Toggle (Channel Code 0002h)

- **Name:** CH_PB_Toggle
- **ID:** 0002h
- **Classification:** sensor
- **Functional Block:**
 - 421 – FB Switching Sensor Basic (SSB)
- **Graphical representation:**



- **Description:**
See FB Switching Sensor Basic (SSB).
- **Datapoint list:**

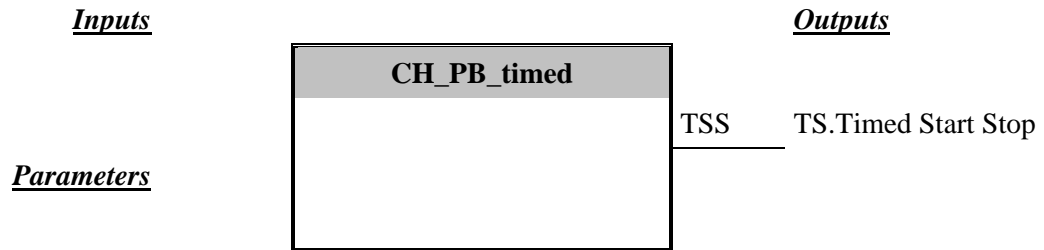
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	421 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L

2.2 CH_PB_Timed (Channel Code 0003h)

- **Name:** CH_PB_Timed
- **ID:** 0003h
- **Classification:** sensor
- **Functional Block:**

- 406 – FB Timed Sensor (TS)

- **Graphical representation:**



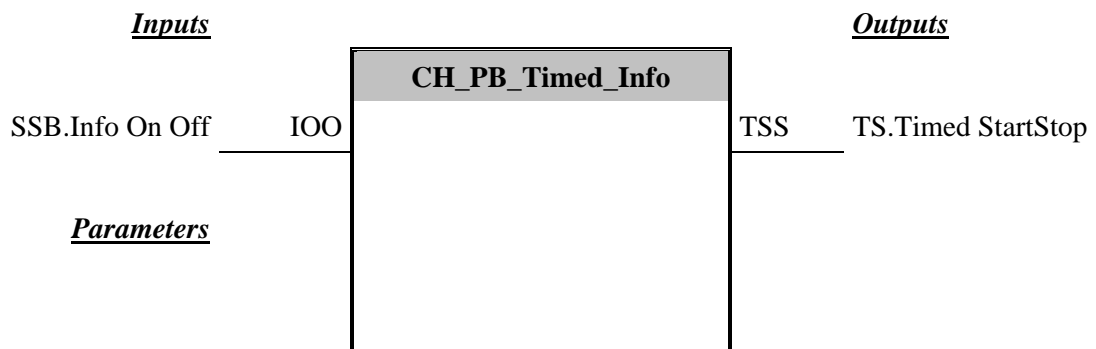
- **Description:**
See FB Timed Sensor.

- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	406 / Timed Start Stop	Timed Start Stop	1	CC_Timed		O L

2.3 CH_PB_Timed_Info (Channel Code 0004h)

- **Name:** CH_PB_Timed_Info
- **ID:** 0004h
- **Classification:** sensor
- **Functional Block:**
 - 406 - FB Timed Sensor (TS)
 - 421 – FB Switching Sensor Basic (SSB)
- **Graphical representation:**

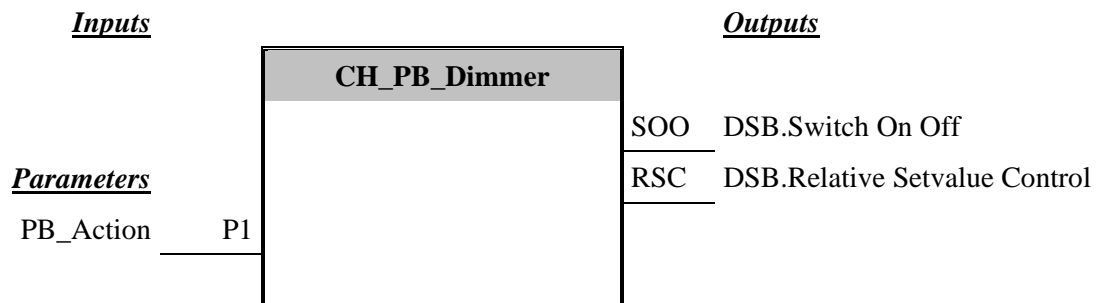


- **Description:**
Grouping of functionality from FB Timed Sensor and FB Switching Sensor Basic. There are no relationships between the Functional Blocks.
- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	406 / Timed Start Stop	Timed StartStop	1	CC_Timed		O L

2.4 CH_PB_Dimmer (Channel Code 0005h)

- **Name:** CH_PB_Dimmer
- **ID:** 0005h
- **Classification:** sensor
- **Functional Block:**
 - 420 – FB Dimming Sensor Basic (DSB)
- **Graphical representation:**



- **Description:**
See FB Dimming Sensor Basic (DSB).

- **Datapoint list:**

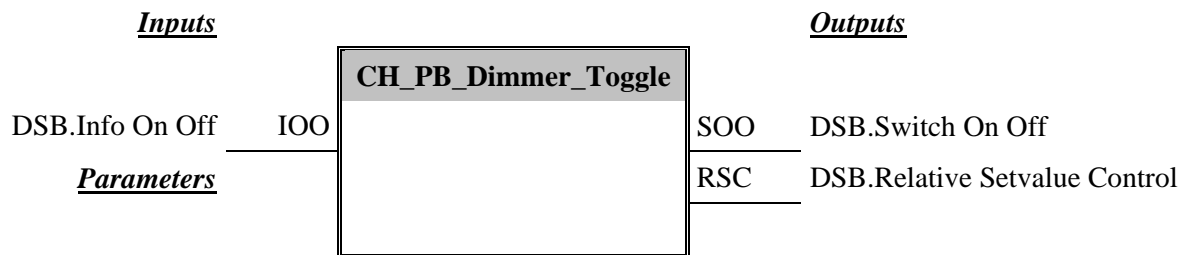
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	420 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L
2	420 / Relative Setvalue Control	Dimming Ctrl	1	CC_Dimming_Ctrl		O

- **Parameter table:**

Index	Name	Identifier	Type	Recommended default value	Bit Offset
1	PB_Action	P1	PART_UpDown_Action	UP	7

2.5 CH_PB_Dimmer_Toggle (Channel Code 0006h)

- **Name:** CH_PB_Dimmer_Toggle
- **ID:** 0006h
- **Classification:** sensor
- **Functional Block:**
 - 420 – FB Dimming Sensor Basic (DSB)
- **Graphical representation:**



- **Description:**
See FB Dimming Sensor Basic (DSB).

- **Datapoint list:**

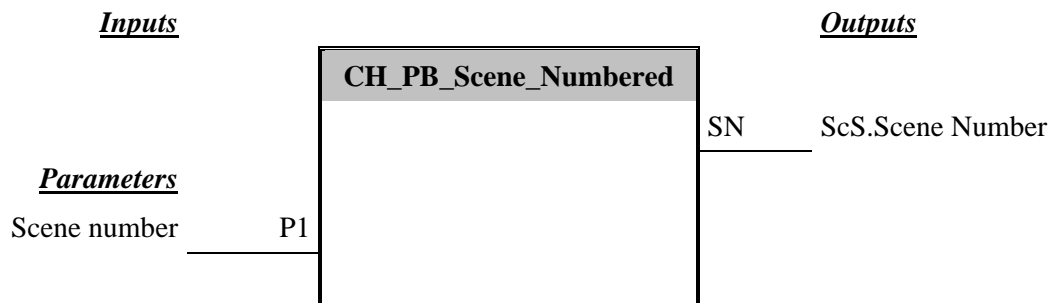
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	420 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	413 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L
3	413 / Relative Setvalue Control	Dimming Ctrl	1	CC_Dimming_Ctrl		O

2.6 CH_PB_Scene_Numbered (Channel Code 0007h)

- **Name:** CH_PB_Scene_Numbered
- **ID:** 0007h
- **Classification:** sensor
- **Functional Block:**

- 403 –FB Scene Sensor (ScS)

- **Graphical representation:**



- **Description:** **See Functional Block FB Scene Sensor.**
The range for the parameter “Scene number” is restricted from 0 to 7 for the E-Mode Management Client.

- **Datapoint list:**

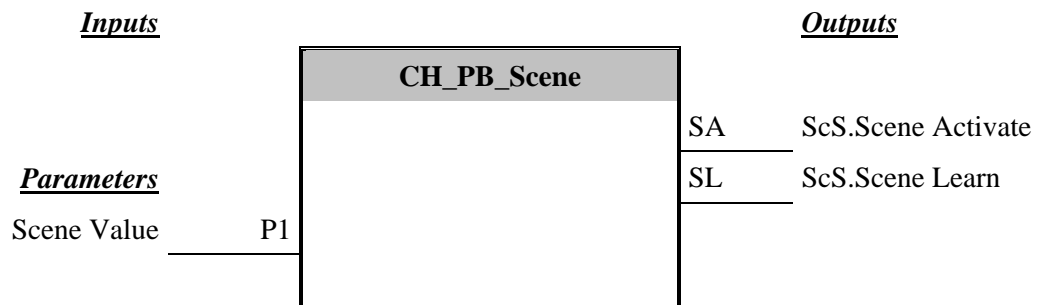
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	403 / Scene Number	Scene number	1	CC_Scene_Number		O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Scene number	PART_Scene_Number	0	2

2.7 CH_PB_Scene (Channel Code 0008h)

- **Name:** CH_PB_Scene
- **ID:** 0008h
- **Classification:** sensor
- **Functional Block:**
 - 403 – FB Scene Sensor (ScS)
- **Graphical representation:**



- **Description:**
See FB Scene Sensor (ScS).

- **Datapoint list:**

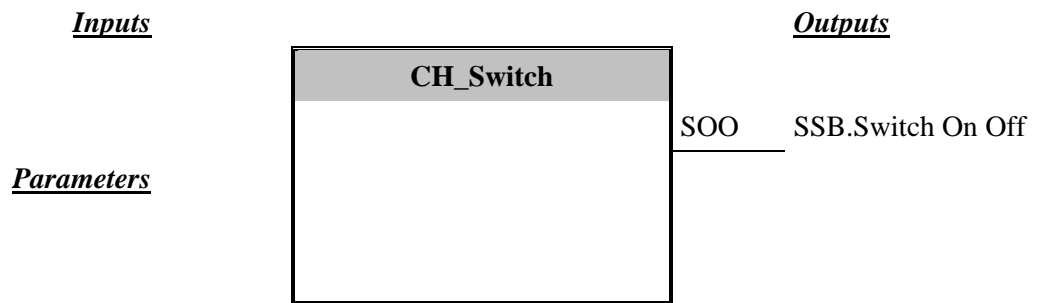
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	403 / Scene AB Activate	Scene Activate	1	CC_Activate	CC_Switch_OnOff	O L
2	403 / Scene AB Teach	Scene Learn	1	CC_Learn		O

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Scene Value	PART_Scene_Value	0	7

2.8 CH_Switch (Channel Code 0009h)

- **Name:** CH_Switch
- **ID:** 0009h
- **Classification:** sensor
- **Functional Block:**
 - 421 - FB Switching Sensor Basic (SSB)
- **Graphical representation:**

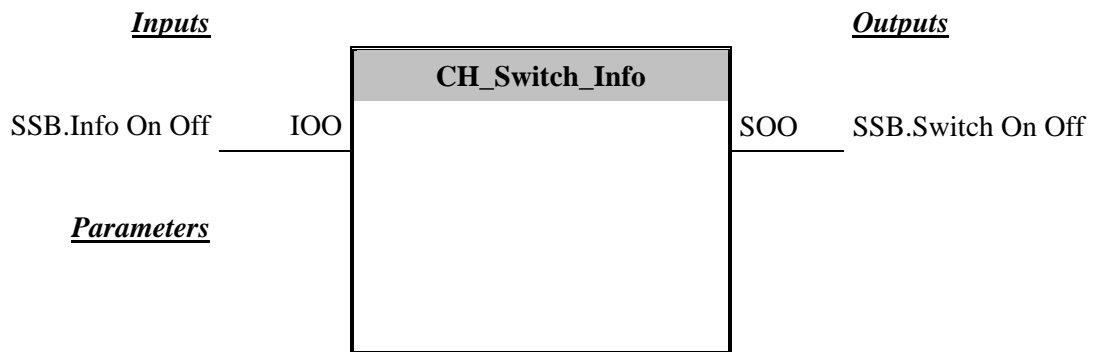


- **Description:**
See FB Switching Sensor Basic (SSB).
- **Datapoint list**

Index	FB/DP_Name	Name	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Switch On Off	OnOff	CC_Switch_OnOff	CC_Logical	O L

2.9 CH_Switch_Info (Channel Code 000Ah)

- **Name:** CH_Switch_Info
- **ID:** 000Ah
- **Classification:** sensor
- **Functional Block:**
 - 421 - FB Switching Sensor Basic (SSB)
- **Graphical representation:**



- **Description:**
See FB Switching Sensor Basic (SSB).
- **Datapoint list:**

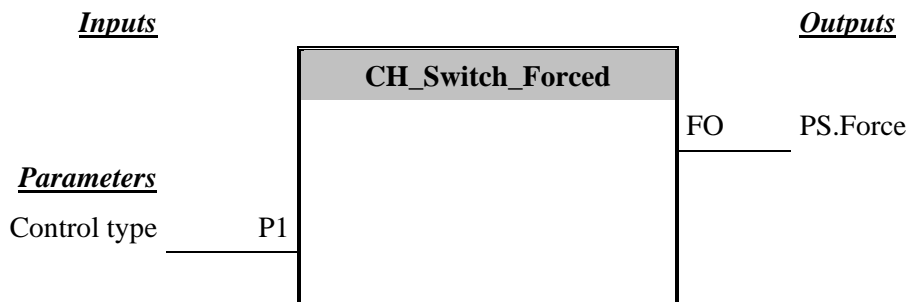
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	421 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L

2.10 CH_Switch_Forced (Channel Code 000Bh)

- **Name:** CH_Switch_Forced
- **ID:** 000Bh
- **Classification:** sensor
- **Functional Block:**

- 405 - FB Priority Sensor (PS)

- **Graphical representation:**



- **Description:**
See FB Priority Sensor (PS).

- **Datapoint list:**

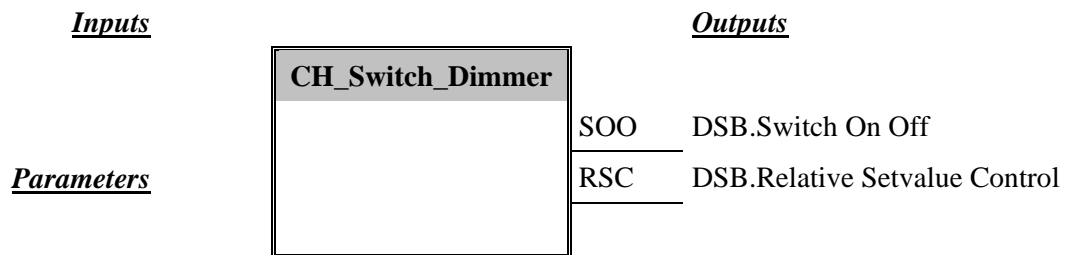
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,y,...)
1	405 / Force	Forced	1	CC_Fforced		O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Control type	PART_Boolean	0: Ctrl False	7

2.11 CH_Switch_Dimmer (Channel Code 000Ch)

- **Name:** CH_Switch_Dimmer
- **ID:** 000Ch
- **Classification:** sensor
- **Functional Block:**
 - 420 - FB Dimming Sensor Basic (DSB)
- **Graphical representation:**



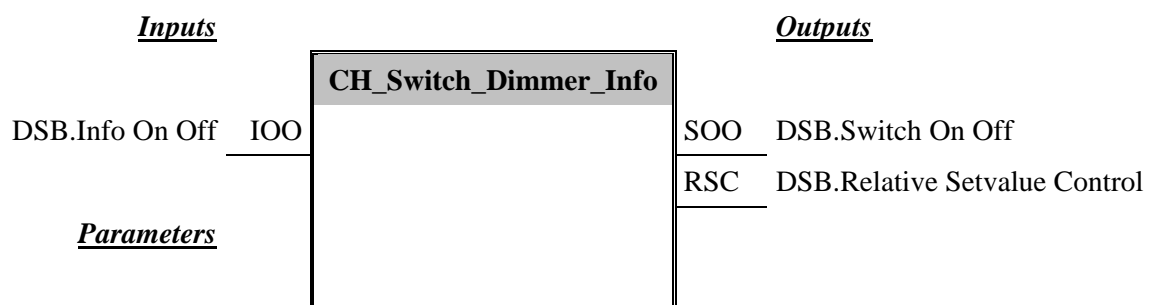
- **Description:**
See FB Dimming Sensor Basic (DSB).

- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	420.OnOff	OnOff	1	CC_Switch_OnOff	CC_Logical	O L
2	420.Dimming Ctrl	Dimming Ctrl	1	CC_Dimming_Ctrl		O

2.12 CH_Switch_Dimmer_Info (Channel Code 000Dh)

- **Name:** CH_Switch_Dimmer_Info
- **ID:** 000Dh
- **Classification:** sensor
- **Functional Block:**
 - 420 - FB Dimming Sensor Basic (DSB)
- **Graphical representation:**



- **Description:**

See FB Dimming Sensor Basic (DSB).

- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	420.Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	420.Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L
3	420.Relative Setvalue Control	Dimmer Ctrl	1	CC_Dimming_Ctrl		O

2.13 CH_Switch_Dimmer_Toggle (Channel Code 000Eh)

- **Name:** CH_Switch_Dimmer_Toggle

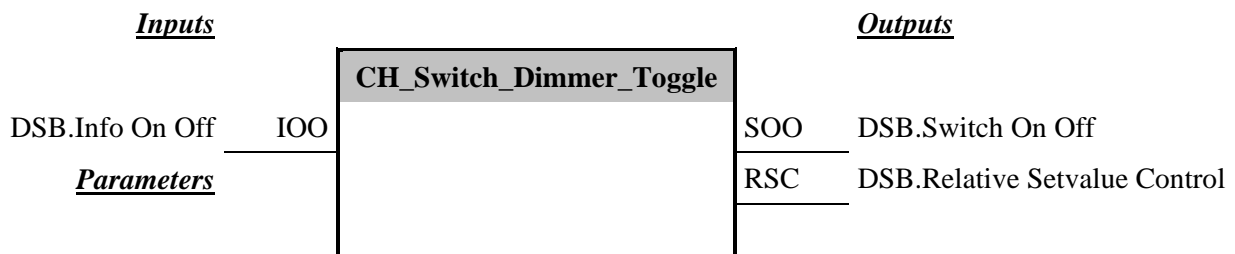
- **ID:** 000Eh

- **Classification:** sensor

- **Functional Block:**

- 420 – FB Dimming Sensor Basic (DSB).

- **Graphical representation:**



- **Description:**

See FB Dimming Sensor Basic (DSB).

- **Datapoint list:**

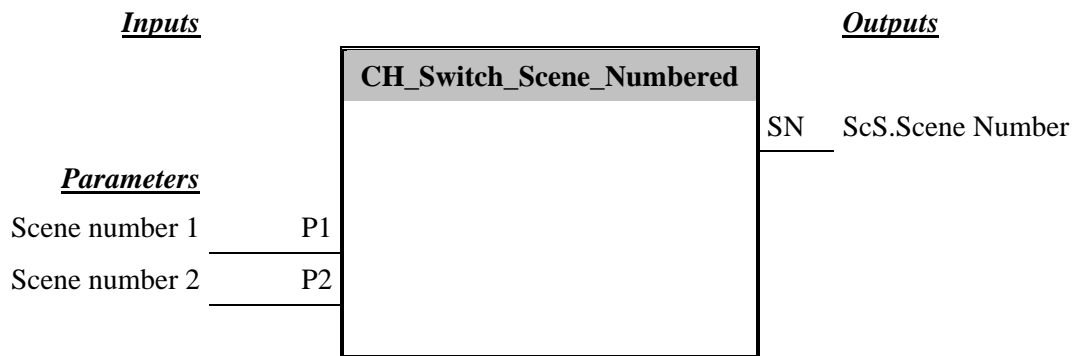
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	420 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	420 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L
3	420 / Relative Setvalue Control	Dimmer Ctrl	1	CC_Dimming_Ctrl		O

2.14 CH_Switch_Scene_Numbered (Channel Code 000Fh)

- **Name:** CH_Switch_Scene_Numbered
- **ID:** 000Fh
- **Classification:** sensor
- **Functional Block:**

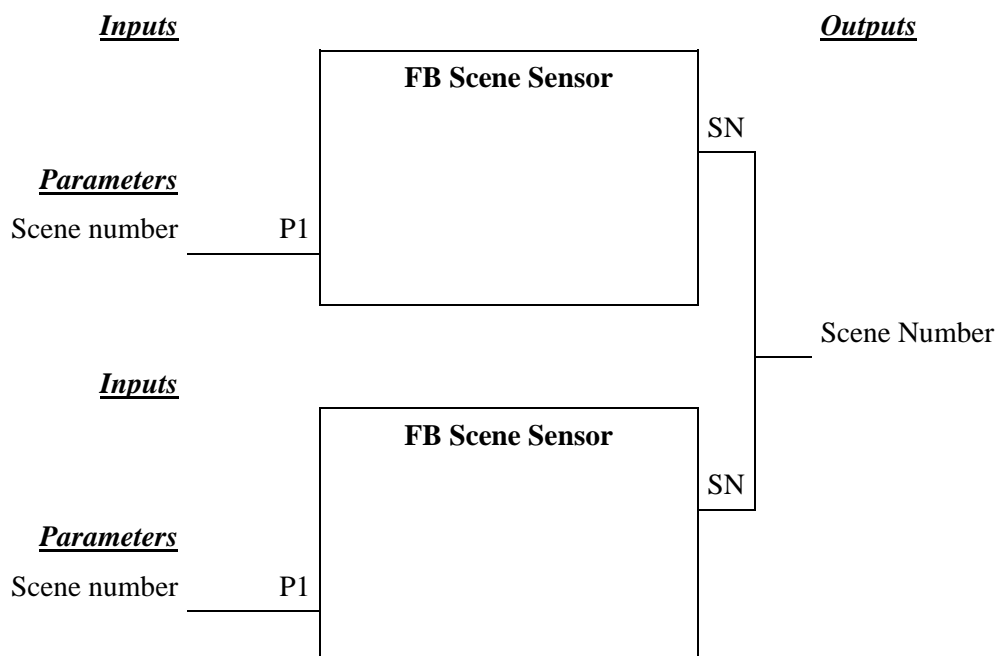
- 2x 403 - FB Scene Sensor (ScS)

- **Graphical representation:**



- **Description:**

Grouping of two FBs Scene Sensor, see equivalent descriptions. The two Functional Blocks of same type use a shared output Datapoint. The two FB themselves have moreover no interaction.



This Channel contains 4 human interaction points, two groups concerning to the FB Scene Sensor interaction points.

There are 4 possible interactions:

1. on interaction 1(e.g. long press on ON) send the value of parameter P1 “scene number 1” with the bit “ learn ” set to 1
2. on interaction 2(e.g. long press on OFF) send the value of parameter P2 “scene number 2”with the bit “ learn ” set to 1
3. on interaction 3(e.g. short press on ON) send the value of parameter P1 “scene number 1”with the bit “ learn ” set to 0
4. on interaction 4(e.g. - short press on OFF) send the value of parameter P2 “scene number 2”with the bit “ learn ” set to 0

The range for the parameter “Scene number” is restricted from 0 to 7 for the E-Mode Management Client.

• **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	403 / Scene Number	Scene number	1	CC_Scene_Number		O L

• **Parameter table:**

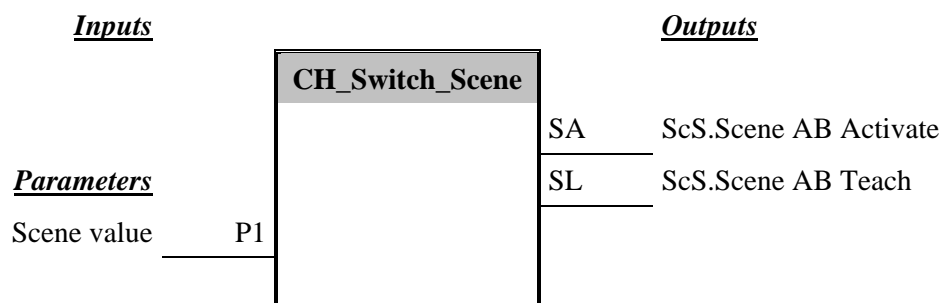
Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Scene number 1	PART_Scene_Number	0	2
2	P2	Scene number 2	PART_Scene_Number	0	10

2.15 CH_Switch_Scene (Channel Code 0010h)

- **Name:** CH_Switch_Scene
- **ID:** 0010h
- **Classification:** sensor
- **Functional Block:**

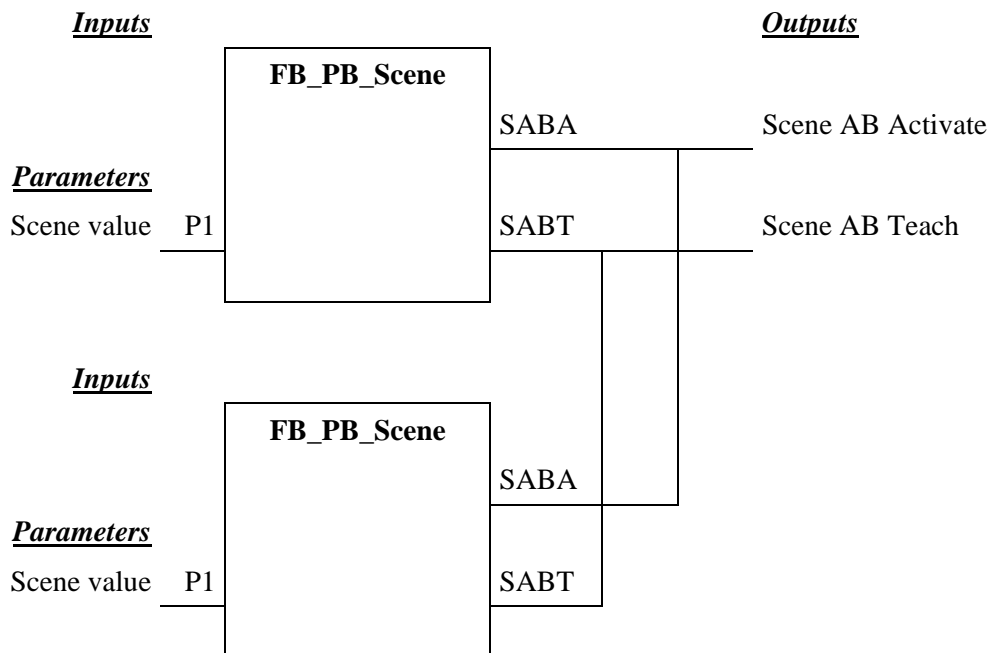
- 2x 403 - FB Scene Sensor (ScS)

• **Graphical representation:**



- **Description:**

Grouping of two FB Scene Sensor, see equivalent descriptions. The two FBs of the same type use a shared Output. The two FB themselves moreover have no interaction.



This Channel contains 4 human interaction points, two groups concerning to the FB Scene interaction points.

There are 4 possible interactions :

1. on interaction 1 (e.g. long press on ON) send the value Scene value via the Scene AB Teach Output
2. on interaction 2 (e.g. long press on OFF) send the value inverted(Scene value) via the Scene AB Teach Output
3. on interaction 3 (e.g. short press on ON) send the value Scene value via the Scene AB Activate Output
4. on interaction 4 (e.g. short press on OFF) send the value inverted(Scene value) via the Scene AB Activate Output

- **Datapoint list:**

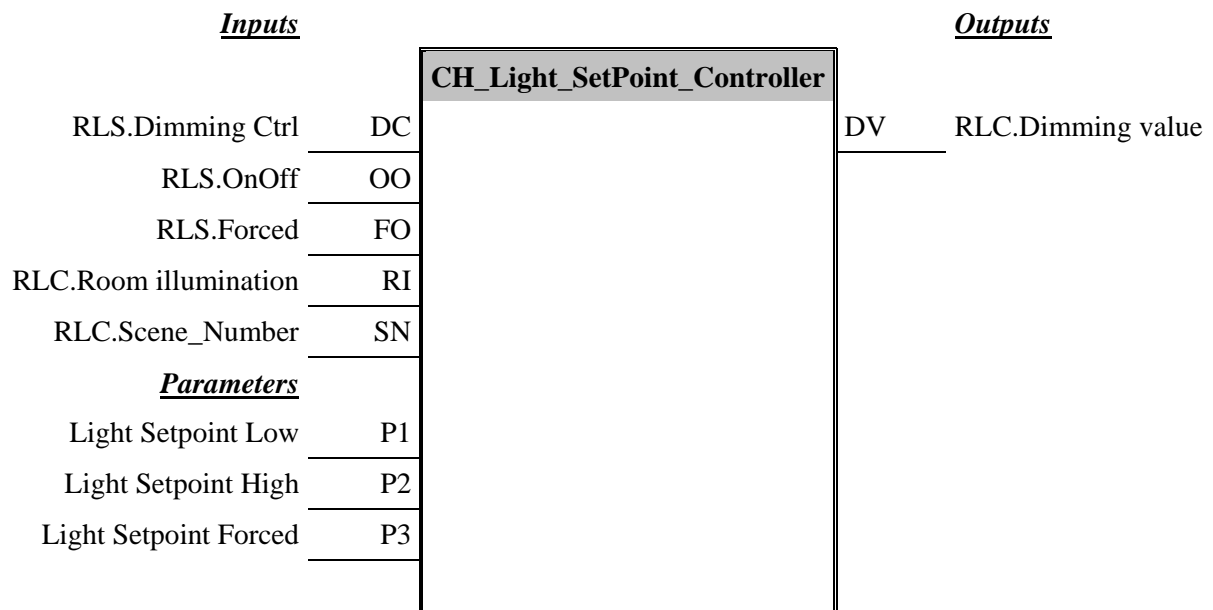
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	403 / Scene AB Activate	Scene_Activate	1	CC_Activate	CC_Switch_OnOff	O L
2	403 / Scene AB Teach	Scene learn	1	CC_Learn		O

- **Parameter table:**

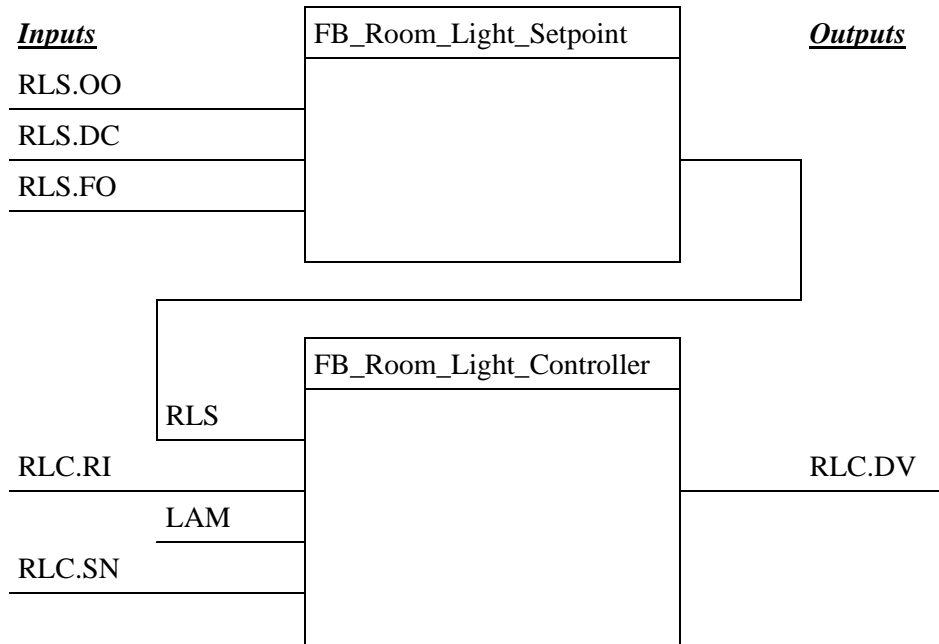
Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Scene value	PART_Scene_Value	1	7

2.16 CH_Light_Setpoint_Controller (Channel Code 0011h)

- **Name:** CH_Light_Setpoint_Controller
- **ID:** 0011h
- **Classification:** functional module
- **Functional Block:**
 - 408 - FB_Room_Light_Setpoint (see 4.2 in this document)
 - 415 - FB_Room_Light_Controller (see 4.4 in this document)
- **Graphical representation:**



- **Description:**
See Functional Block FB_Room_Light_Setpoint (clause 4.2), FB_Room_Light_Controller (clause 4.4).



- **Datapoint list:**

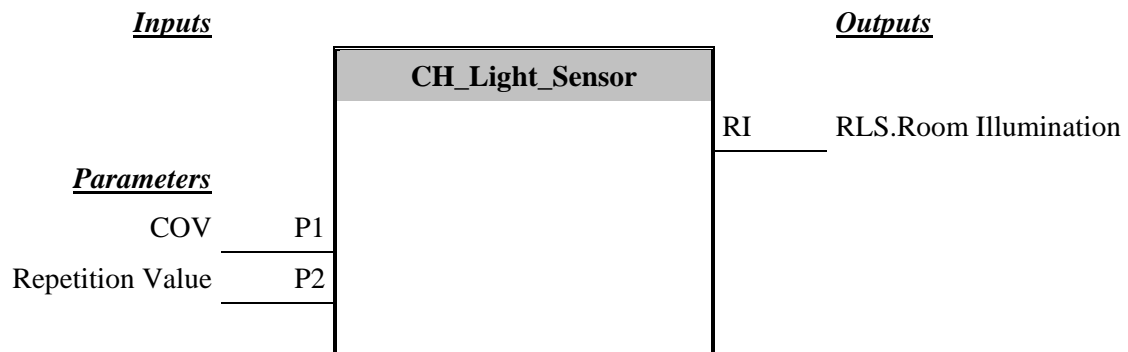
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	408/Dimming CtrlC	Dimming Ctrl	1	CC_Dimming_Ctrl		I
2	408 / OnOff	OnOff	1	CC_Switch_OnOff	CC_Logical	I L
3	408 / Forced	Forced	1	CC_Forced		I
4	415 / Room Illumination	Room illumination	1	CC_Illumination		I
5	415 / Scene Numbered	Scene numbered	1	CC_Scene_Number		I
6	415 / Dimming Value	Dimming value	1	CC_Dimming_Value		O LA

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Light Setpoint Low	PART_Light_Value	50 lux	0
2	P2	Light SetPoint High	PART_Light_Value	1000 lux	16
3	P3	Light SetPoint_Forced	PART_Light_Value	500 lux	32

2.17 CH_Light_Sensor (Channel Code 0012h)

- **Name:** CH_Light_Sensor
- **ID:** 0012h
- **Classification:** sensor
- **Functional Block:**
 - 409 – FB Room Light Sensor (RLS)(see 4.3 in this document)
- **Graphical representation:**



- **Description:**
See FB Room Light Sensor (RLS)(see 4.3 in this document).

- **Datapoint list:**

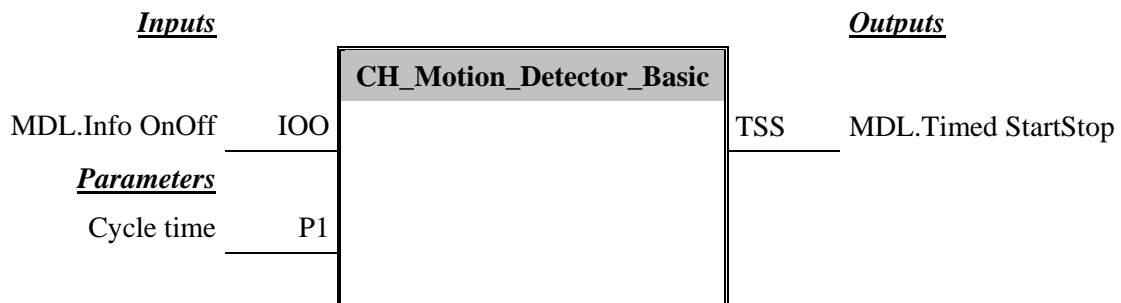
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
0	409 / Room Illumination	Room illumination	1	CC_Illumination		O L

- **Parameter table:**

Index	Name	Identifier	Type	Recommended default value	Bit Offset
0	Change of value in lux	P1	PART_COV_Lux	10 lux	0
1	Repetition time	P2	PART_Time_Delay	5 min	16

2.18 CH_Motion_Detector_Basic (Channel Code 0013h)

- **Name:** CH_Motion_Detector_Basic
- **ID:** 0013h
- **Classification:** sensor
- **Functional Block:**
 - 414 – FB Movement Detector for Lighting (MDL)
- **Graphical representation:**



- **Description:**

See FB Movement Detector for Lighting.

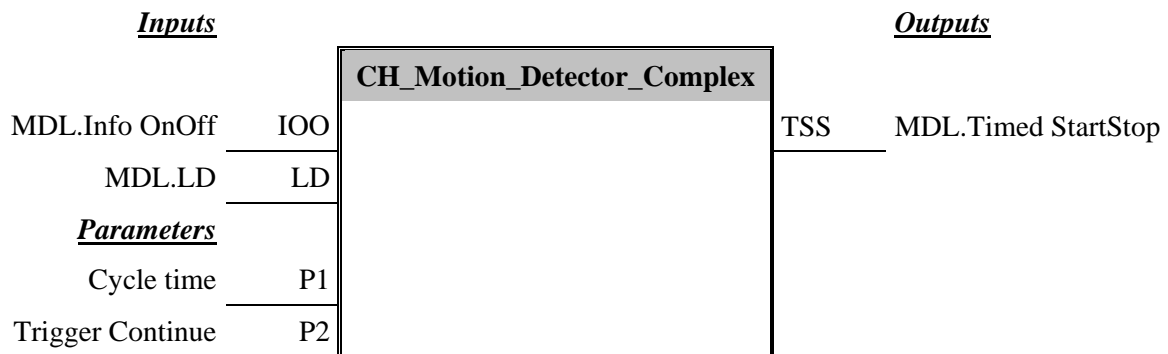
The parameter Cycle_time is fixed to 45 s.

The recommended value for the parameter of the timed function in the actuator linked to this channel is 1 min.
- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	414 / InfoOnOff	Info On Off	1	CC_Switch_OnOff_Status		I
2	414 / Timed StartStop	Timed StartStop	1	CC_Timed		O L

2.19 CH_Motion_Detector_Complex (Channel Code 0014h)

- **Name:** CH_Motion_Detector_Complex
- **ID:** 0014h
- **Classification:** sensor
- **Functional Block:**
 - 414 – FB Movement Detector for Lighting (MDL)
- **Graphical representation:**



- **Description:**
See FB Movement Detector for Lighting (MDL).
- **Datapoint list:**

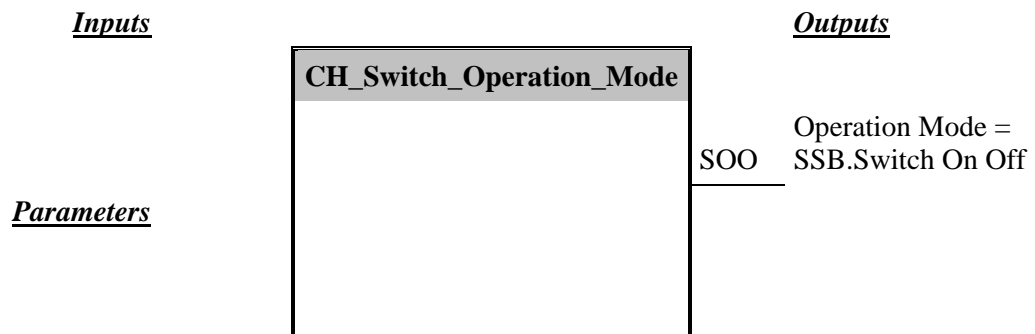
Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	414 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status		I
2	414 / Lock Device	Enable	1	CC_Enable		I
3	414 / Timed StartStop	Timed StartStop	1	CC_Timed		O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Cycle_time	PART_Cycle_Time	45 s	0
2	P2	Trigger_Continue	PART_Boolean	Disable = FALSE	15

2.20 CH_Switch_Operation_Mode (Channel Code 001Eh)

- **Name:** CH_Switch_Operation_Mode
- **ID:** 001Eh
- **Classification:** sensor
- **Functional Block:**
 - 421 - FB Switching Sensor Basic (SSB)
- **Graphical representation:**



- **Description:**

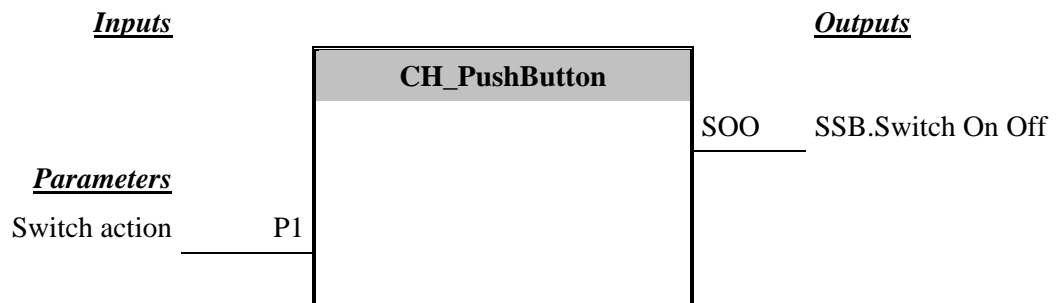
On human interaction, the state of the switch is sent. There are 2 possible interactions:

 1. on interaction 1 send value 1 (e.g. when pressed on ON)
 2. on interaction 2 send value 0 (e.g. when pressed on OFF)
- **Datapoint list:**

Index	FB/DP_Name	Name	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Switch On Off	Operation Mode	CC_Operation_Mode		O L

2.21 CH_PushButton (Channel Code 0020h)

- **Name:** CH_PushButton
- **ID:** 0020h
- **Classification:** sensor
- **Functional Block:**
 - 421 - FB Switching Sensor Basic (SSB)
- **Graphical representation:**



- **Description:**
See FB Switching Sensor Basic (SSB).

- **Datapoint list:**

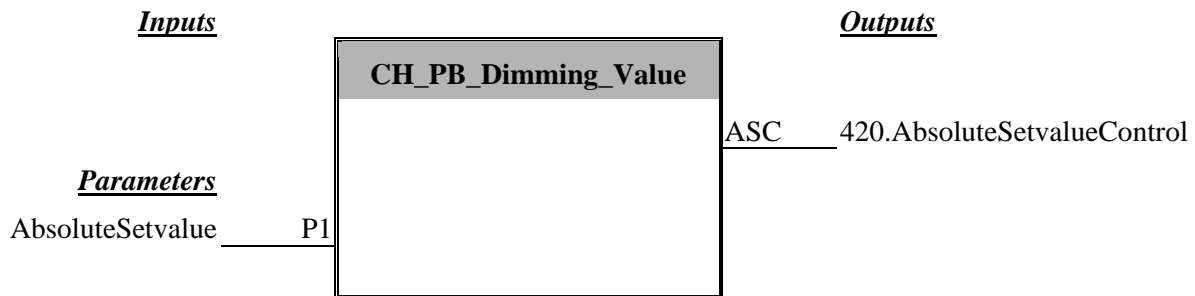
Index	FB / DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Switch On Off	OnOff	1	CC_Switch_OnOff	CC_Logical	O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default Value	Bit Offset
1	P1	Switch action	PART_OnOff_Action	11b : OnOff	6

2.22 CH_PB_Dimming_Value (Channel Code 0029h)

- **Name:** CH_PB_Dimming_Value
- **ID:** 0029h
- **Classification:** sensor
- **Functional Block:**
 - 420 - FB Dimming Sensor Basic (DSB) (See [01]).
- **Graphical representation:**



- **Description:**
Please refer to the specification of FB Dimming Sensor Basic in [01].

- **Datapoint list:**

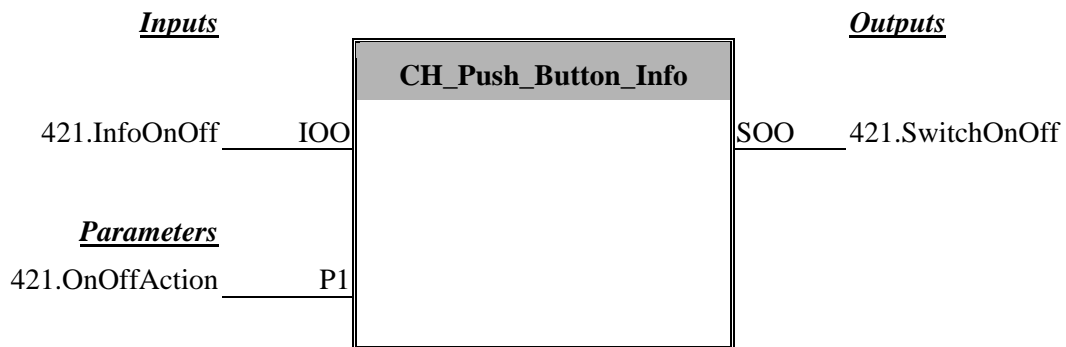
Index	FB Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v, ...)
1	420.ASC	AbsoluteSetvalueControl	1	CC_Dimming_Value		O L

- **Parameter table**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	AbsoluteSetvalue	PART_Dimming_Value	255 : 100 %	0

2.23 CH_Push_Button_Info (Channel Code 002Ah)

- **Name:** CH_Push_Button_Info
- **ID:** 002Ah
- **Classification:** sensor
- **Functional Block:**
 - 421 – FB Switching Sensor Basic (SSB) (See [01]).
- **Graphical representation**



- **Description:**
Please refer to the FB specification in [01]).

- **Datapoint list:**

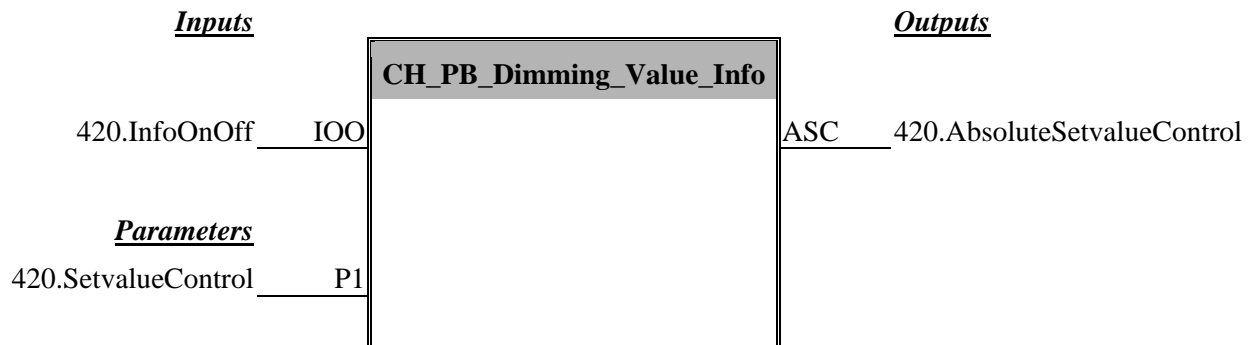
Index	FB Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421.IOO	InfoOnOff	1	CC_Switch_OnOff_Status		I
2	421.SOO	SwitchOnOff	1	CC_Switch_OnOff	CC_Logical	O L

- **Parameter table**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	OnOffAction	PART_Switch_Value	11b: OnOff	6

2.24 CH_PB_Dimming_Value_Info (Channel Code 002Ch)

- **Name:** CH_PB_Dimming_Value_Info
- **ID:** 002Ch
- **Classification:** sensor
- **Functional Block:**
 - 420 – FB Dimming Sensor Basic (See [01].)
- **Graphical representation:**



- **Description:**
Please refer to the specification of the FB Dimming Sensor Basic in [01].
- **Datapoint list:**

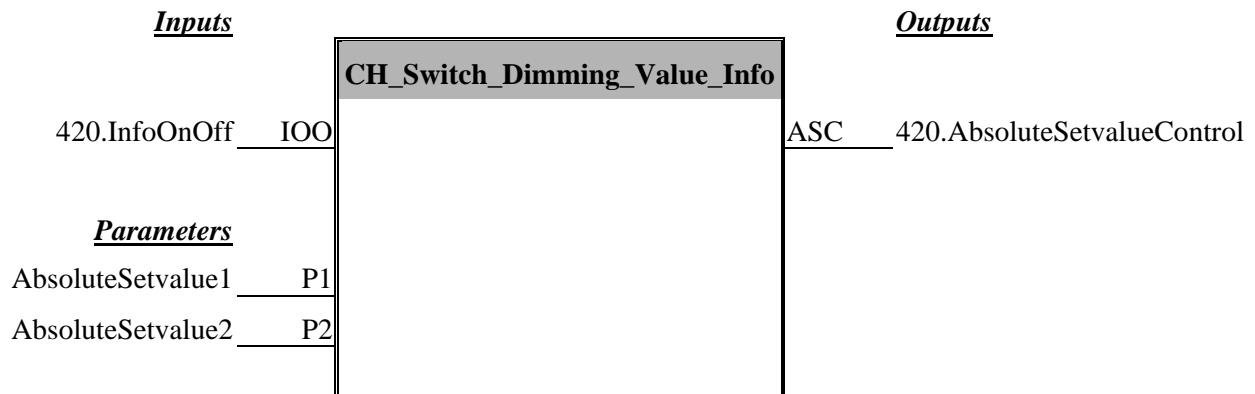
Index	FB Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v,....)
1	420.IOO	InfoOnOff	1	CC_Switch_OnOff_Status		I
2	420.ASC	AbsoluteSetvalueControl	1	CC_Dimming_Value		O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	SetvalueControl	PART_Dimming_Value	255 : 100%	0

2.25 CH_Switch_Dimming_Value_Info (Channel Code 002Dh)

- **Name:** CH_Switch_Dimming_Value_Info
- **ID:** 002Dh
- **Classification:** Sensor
- **Functional Block:**
 - 420 – FB Dimming Sensor Basic (See [01].)
- **Graphical representation**



- **Description:**
Please refer to the specification of FB Dimming Sensor Basic in [01].
- **Datapoint list:**

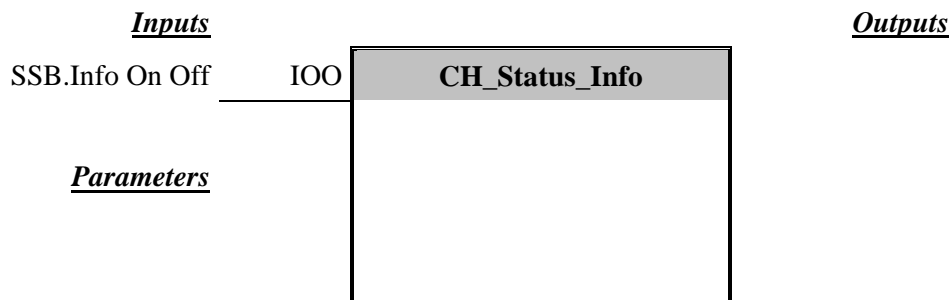
Index	FB Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v,....)
1	420.IOO	InfoOnOff	1	CC_Switch_OnOff_Status		I
2	420.ASC	AbsoluteSetvalueControl	1	CC_Dimming_Value		O L

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit-Offset
1	P1	AbsoluteSetvalue1	PART_Dimming_Value	255: 100 %	0
2	P2	AbsoluteSetvalue 2	PART_Dimming_Value	0 : 0 %	8

2.26 CH_Status_Info (Channel Code 0100h)

- **Name:** CH_Status_Info
- **ID:** 0100h
- **Classification:** actuator
- **Functional Block:**
 - 421 – FB Switching Sensor Basic (SSB)
- **Graphical representation:**



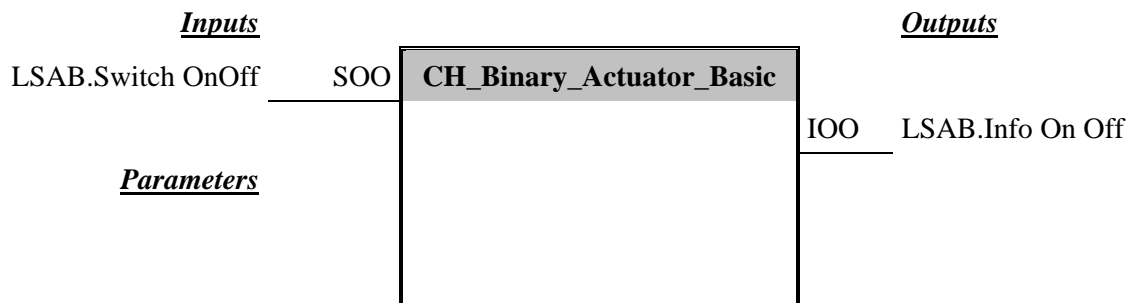
- **Description:**
See FB Switching Sensor Basic (SSB).

- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	421 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	I L

2.27 CH_Binary_Actuator_Basic (Channel Code 0101h)

- **Name:** CH_Binary_Actuator_Basic
- **ID:** 0101h
- **Classification:** actuator
- **Functional Block:**
 - 417 - FB Light Switching Actuator Basic (LSAB)
- **Graphical representation:**



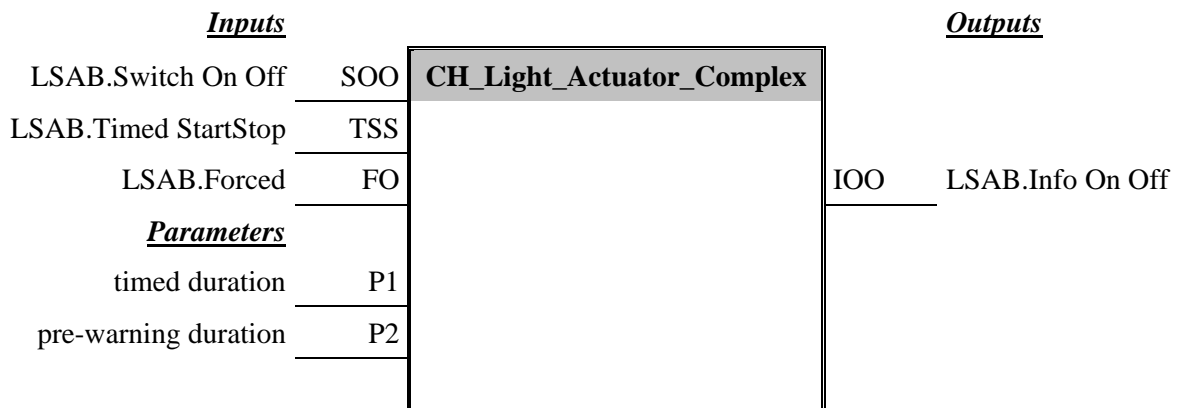
- **Description:**
See FB Light Switching Actuator Basic (LSAB).

- **Datapoint list:**

Index	FB / DP_Name	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	417 / Switch On Off	OnOff	1	CC_Switch_OnOff		I L
2	417 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	O V L A

2.28 CH_Light_Actuator_Complex (Channel Code 0102h)

- **Name:** CH_Light_Actuator_Complex
- **ID:** 0102h
- **Classification:** actuator
- **Functional Block:**
 - 417 - FB Light Switching Actuator Basic (LSAB)
- **Graphical representation:**



- **Description:**
See FB Light Switching Actuator Basic (LSAB).

- **Datapoint list:**

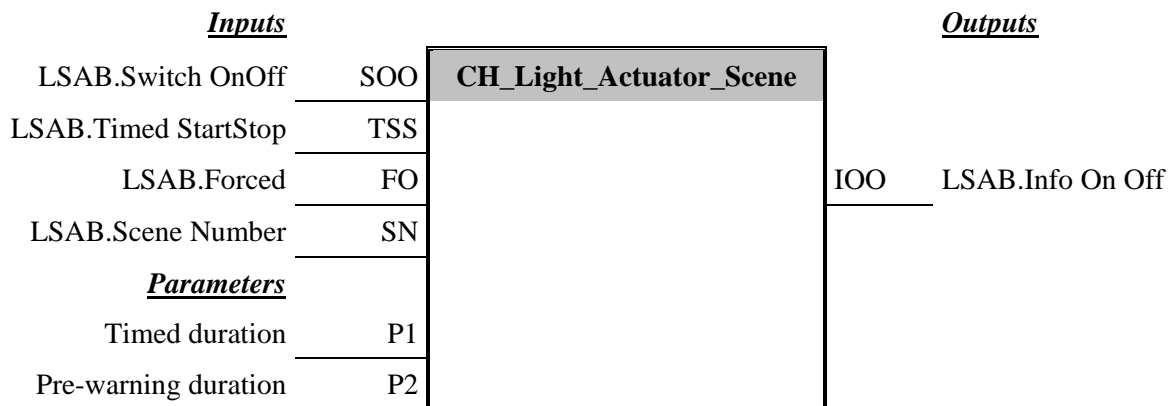
Index	FB / DP_Name	Name	Sub unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	417 / Switch On Off	OnOff	1	CC_Switch_OnOff		I L
2	417 / Timed StartStop	Timed StartStop	1	CC_Timed		I
3	417 / Forced	Forced	1	CC_Forced		I
4	417 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	O V LA

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Timed duration	PART_Time_Delay	1 minute	0
2	P2	Pre-warning duration	PART_Prewarning_Delay	0 : no prewarning	8

2.29 CH_Light_Actuator_Scene (Channel Code 0103h)

- **Name:** CH_Light_Actuator_Scene
- **ID:** 0103h
- **Classification:** actuator
- **Functional Block:**
 - 417 - FB Light Switching Actuator Basic (LSAB)
- **Graphical representation:**



- **Description:**
See FB Light Switching Actuator Basic.
Number of scene to be supported is 8.

- **Datapoint list:**

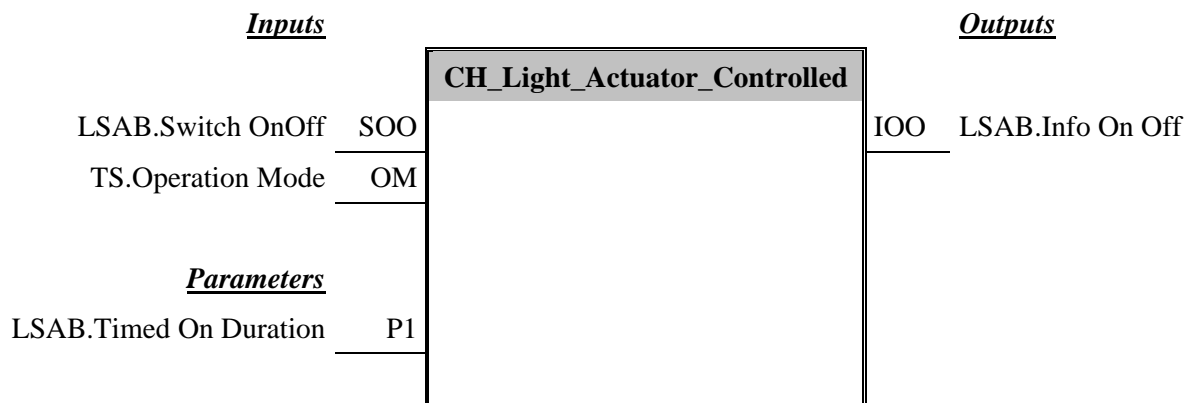
Index	FB / DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	417 / Switch On Off	OnOff	1	CC_Switch_OnOff		I L
2	417 / Timed StartStop	Timed StartStop	1	CC_Timed		I
3	417 / Forced	Forced	1	CC_Forced		I
4	417 / Scene Number	Scene Number	1	CC_Scene_Number		I
5	417 / Info On Off	Info On Off	1	CC_Switch_OnOff_St atus	CC_Logical	O V LA

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Timed duration	PART_Time_Delay	1 minute	0
2	P2	Pre-warning duration	PART_Prewarning_Delay	0 : no prewarning	8

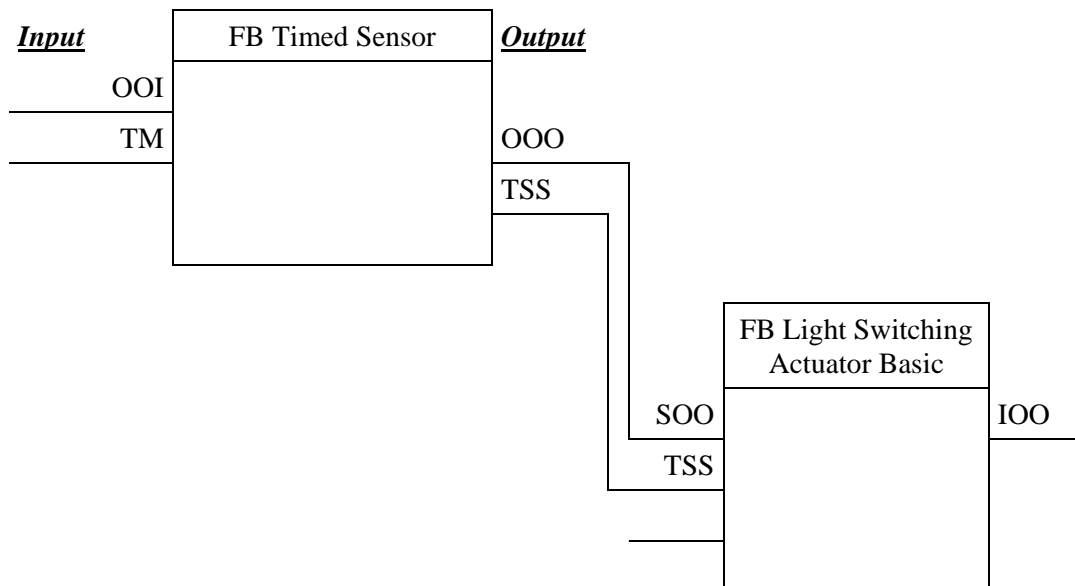
2.30 CH_Light_Actuator_Controlled (Channel Code 0104h)

- **Name:** CH_Light_Actuator_Controlled
- **ID:** 0104h
- **Classification:** actuator
- **Functional Block:**
 - 417 - FB Light Switching Actuator Basic (LSAB)
 - 406 - FB Timed Sensor (TS)
- **Graphical representation:**



- **Description:**

See FB Light Switching Actuator Basic and FB Timed Sensor.



- **Datapoint list:**

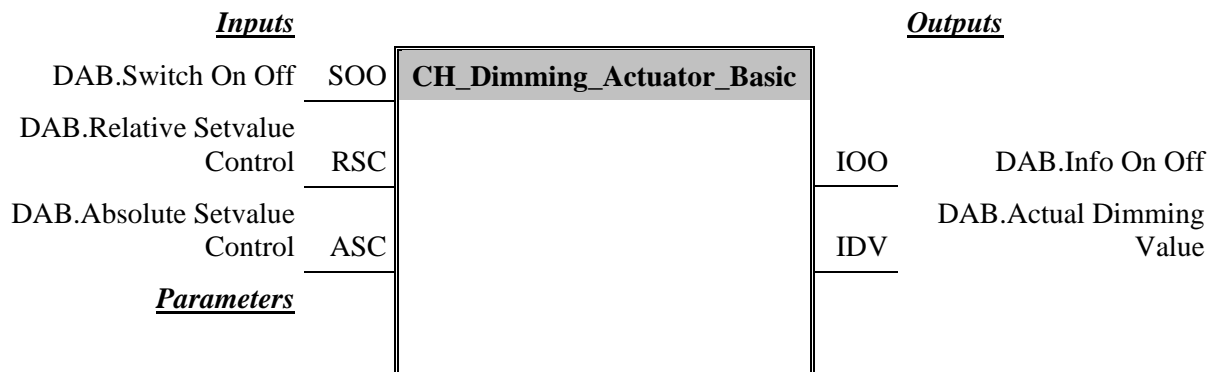
Index	FB / DP_Name	Name	Sub unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	406 / On Off In	OnOff	1	CC_Switch_OnOff		I L
2	406 / TimedMode	Operation Mode	1	CC_OperationMode		I
3	417 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	O V LA

- **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Timed duration	PART_Time_Delay	1 minute	0

2.31 CH_Dimming_Actuator_Basic (Channel Code 0105h)

- **Name:** CH_Dimming_Actuator_Basic
- **ID:** 0105h
- **Classification:** actuator
- **Functional Block:**
 - 418 - FB Dimming Actuator Basic (DAB)
- **Graphical representation:**



- **Description**

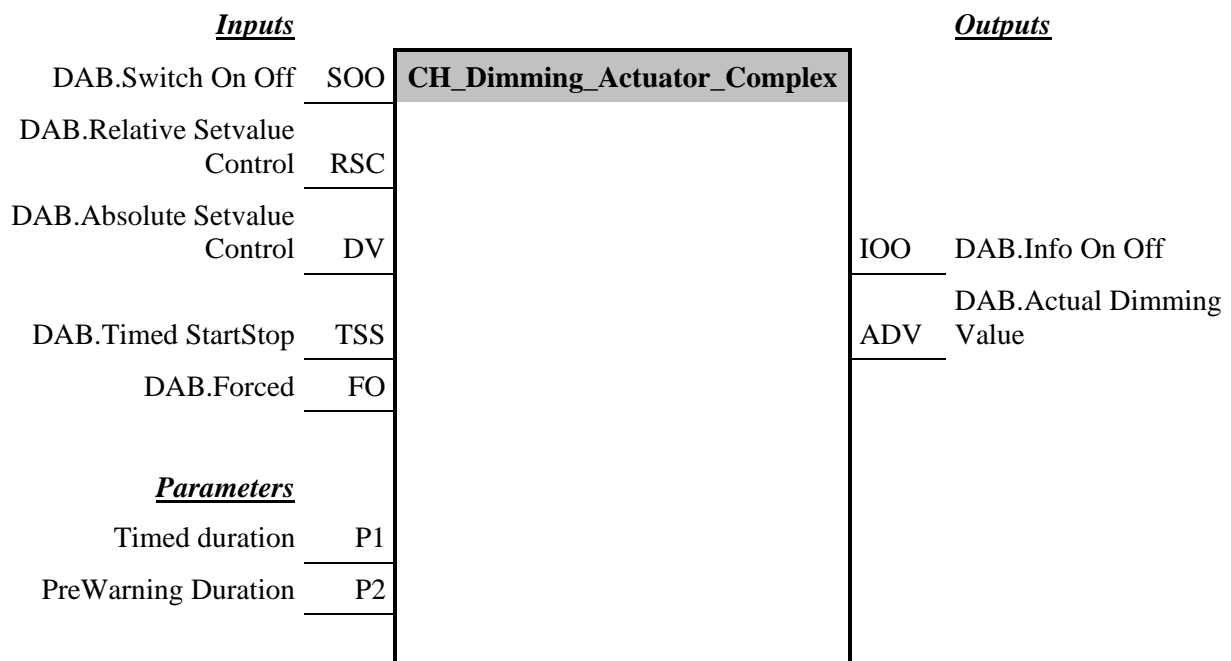
See FB Dimming Actuator Basic (DAB).

- **Datapoint list:**

Index	FB / DP_Name	Name	Sub unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	418 / OnOff	OnOff	1	CC_Switch_OnOff		I L
2	418 / Dimming Ctrl	Dimming Ctrl	1	CC_Dimming_Ctrl		I
3	418 / Dimming Value	Dimming Value	1	CC_Dimming_Value		I
4	418 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	O V LA
5	418 / Info Dimming value	Info Dimming Value	1	CC_Dimming_Value_Status		O V

2.32 CH_Dimming_Actuator_Complex (Channel Code 0106h)

- **Name:** CH_Dimming_Actuator_Complex
- **ID:** 0106h
- **Classification:** actuator
- **Functional Block:**
 - 418 - FB Dimming Actuator Basic (DAB)
- **Graphical representation:**



- **Description:**
See FB Dimming Actuator Basic.

• **Datapoint list:**

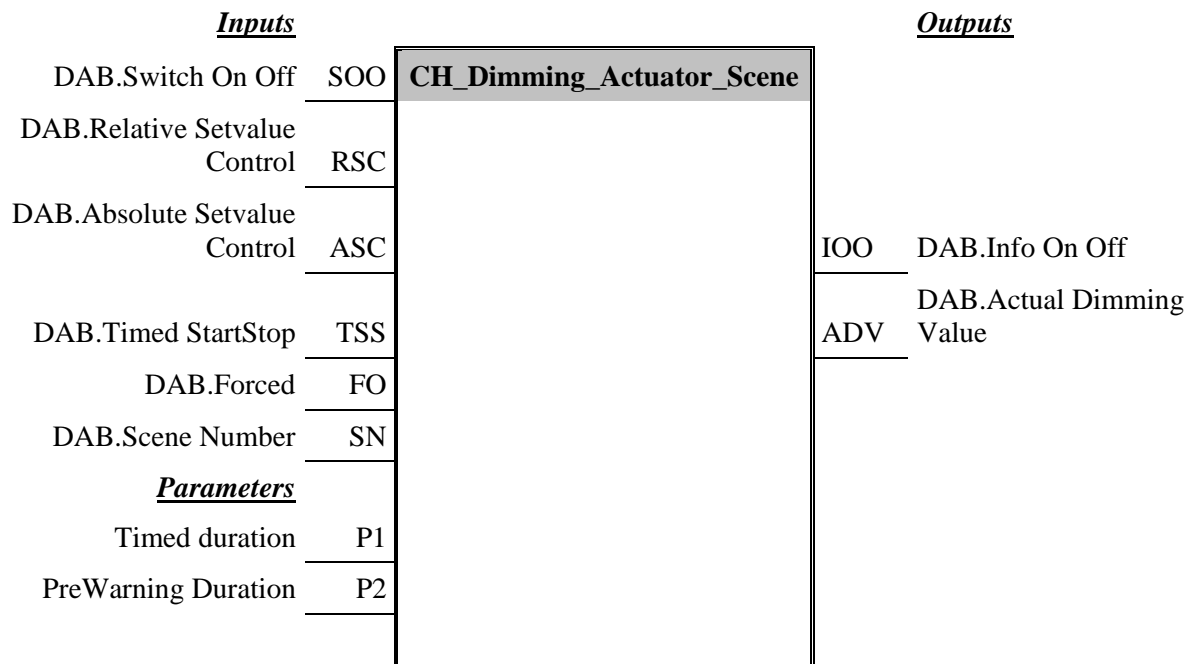
Index	FB / DP_Name	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	418 / Switch OnOff	OnOff	1	CC_Switch_OnOff		I L
2	418 / Relative Setvalue Control	Dimming Ctrl	1	CC_Dimming_Ctrl		I
3	418 / Absolute Setvalue Control	Dimming Value	1	CC_Dimming_Value		I
4	418 / Timed StartStop	Timed StartStop	1	CC_Timed		I
5	418 / Forced	Forced	1	CC_Forced		I
6	418 / Info On Off	Info On Off	1	CC_Switch_OnOff_Status	CC_Logical	O V LA
7	418 / Actual Dimming Value	Info Dimming Value	1	CC_Dimming_Value_Stat us		O V

• **Parameter table:**

Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	Timed duration	PART_Time_Delay	1 minute	0
2	P2	Pre-warning duration	PART_Prewarning_Delay	0 : no prewarning	8

2.33 CH_Dimming_Actuator_Scene (Channel Code 0107h)

- **Name:** CH_Dimming_Actuator_Scene
- **ID:** 0107h
- **Classification:** actuator
- **Functional Block:**
 - 418 - FB Dimming Actuator Basic (DAB)
- **Graphical representation:**



- **Description:**

See FB Dimming Actuator Basic.

Number of scene to be supported is 8.

- **Datapoint list:**

Index	FB/DP_Name	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v,...)
1	418 / Switch On Off	OnOff	1	CC_Switch_OnOff		I L
2	418 / Relative Setvalue Control	Dimming Ctrl	1	CC_Dimming_Ctrl		I
3	418 / Absolute Setvalue Control	Dimming Value	1	CC_Dimming_Value		I
4	418 / Timed StartStop	Timed StartStop	1	CC_Timed		I
5	418 / Forced	Forced	1	CC_Forced		I
6	418 / Scene Number	Scene Number	1	CC_Scene_Number		I
7	418 / Info On Off	Info On Off	1	CC_Switch_OnOff_- Status	CC_Logical	O V LA
8	418 / Actual Dimming Value	Info Dimming Value	1	CC_Dimming_Value_ Status		O V

- **Parameter table**

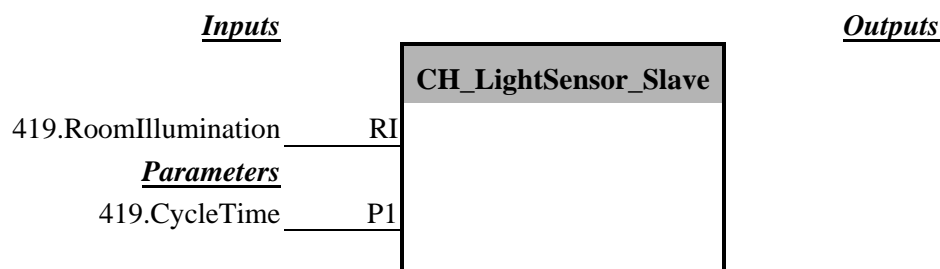
Index	Identifier	Name	Type	Recommended default value	Bit Offset
1	P1	TimedON duration	PART_Time_Delay	1 minute	0
2	P2	Pre-warning duration	PART_Prewarning_Delay	0 : no prewarning	8

2.34 CH_LightSensor_Slave (Channel Code 020Ah)

- **Name:** CH_LightSensor_Slave
- **ID:** 020Ah
- **Classification:** actuator
- **Functional Block:**

- 419 – FB Light Sensor Slave

- **Graphical representation:**



- **Description**

Please refer to the Functional Block specification.

The light sensor slave channel gets a room illumination measure provided by a channel light sensor.

The cycle time default value is set to 15 min.

- **Datapoint list:**

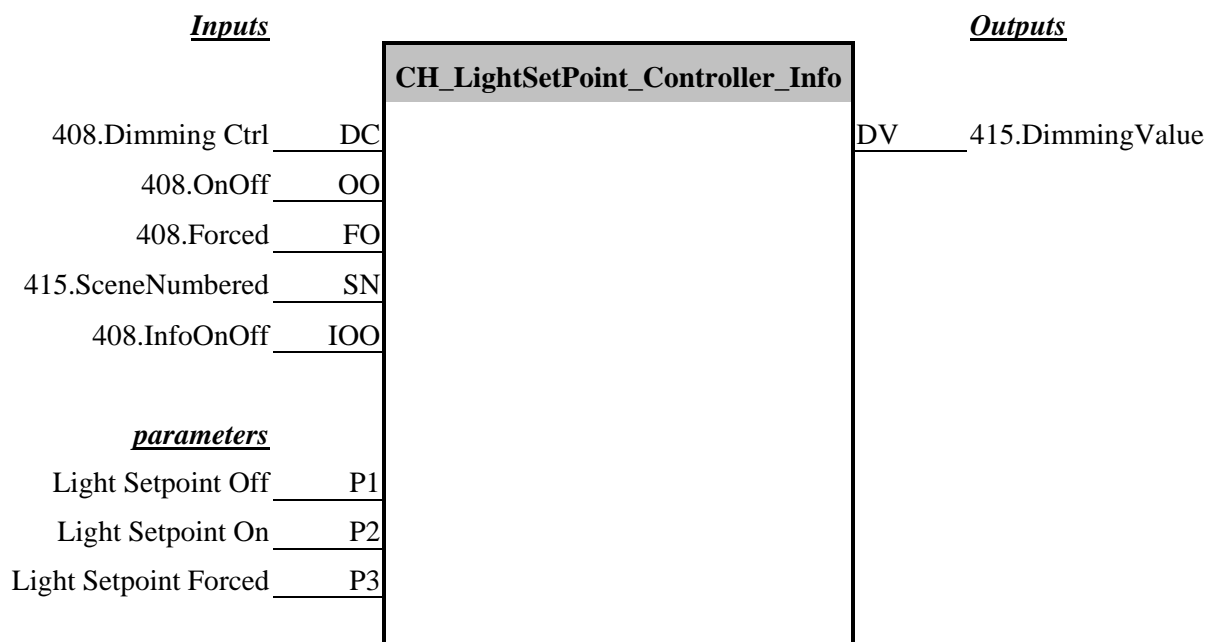
Index	FB Datapoint ID	Name	Subunit	Main CC	Additional CCs	Flags (i/o,x,v, ...)
0	RI	Room Illumination	1	CC_Illumination		OL

- **Parameter table**

Index	Identifier	Name	Type	Recommended default Value	Bit-Offset
1	P1	Cycle Time	PART_Time_Delay	15 min	0

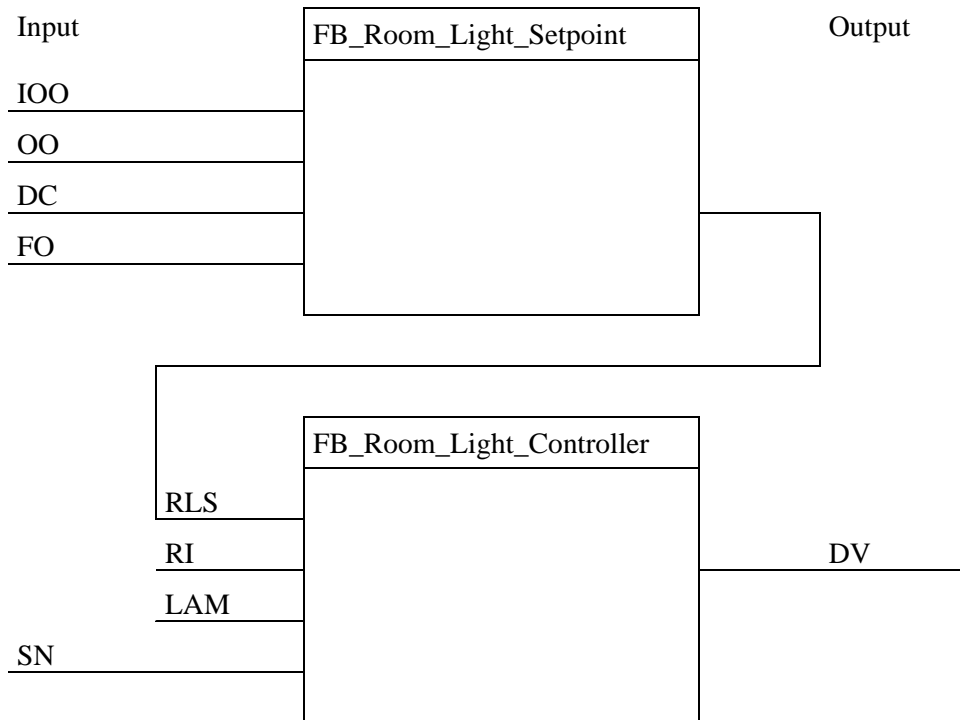
2.35 CH_Light_Setpoint_Controller_Info (Channel Code 020Bh)

- **Name:** CH_Light_Setpoint_Controller_Info
- **ID:** 020Bh
- **Classification:** functional module
- **Functional Block:**
 - 408 - FB_Room_Light_Setpoint (see 4.2 in this document)
 - 415 - FB_Room_Light_Controller (see 4.4 in this document)
- **Graphical representation**



- **Description:**

See Functional Blocks FB_Room_Light_Setpoint and FB_Room_Light_Controller.



- **Datapoint list:**

Index	FB / DP_Name	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v.)
1	408.DimmingCtrl	Dimming Ctrl	1	CC_Dimming_Ctrl		I
2	408.OnOff	OnOff	1	CC_Switch_OnOff	CC_Logical	I L
3	408.Forced	Forced	1	CC_Forced		I
4	415.SceneNumbered	Scene numbered	1	CC_Scene_Numbered		I
5	408.InfoOnOff	Info OnOff	1	CC_Switch_OnOff_Status		I
6	415.DimmingValue	Dimming value	1	CC_Dimming_Value		O

- **Parameter table**

Index	Identifier	Name	Type	Recommended default value	Bit-Offset
1	P1	Light Setpoint Off	PART_Light_Value	0 lux = Off	0
2	P2	Light SetPoint On	PART_Light_Value	400 lux	16
3	P3	Light SetPoint_Forced	PART_Light_Value	800 lux	32

3 Examples

3.1 Example 1: 2 CH_PushButton connected with 2 CH_Binary_Actuator_Basic

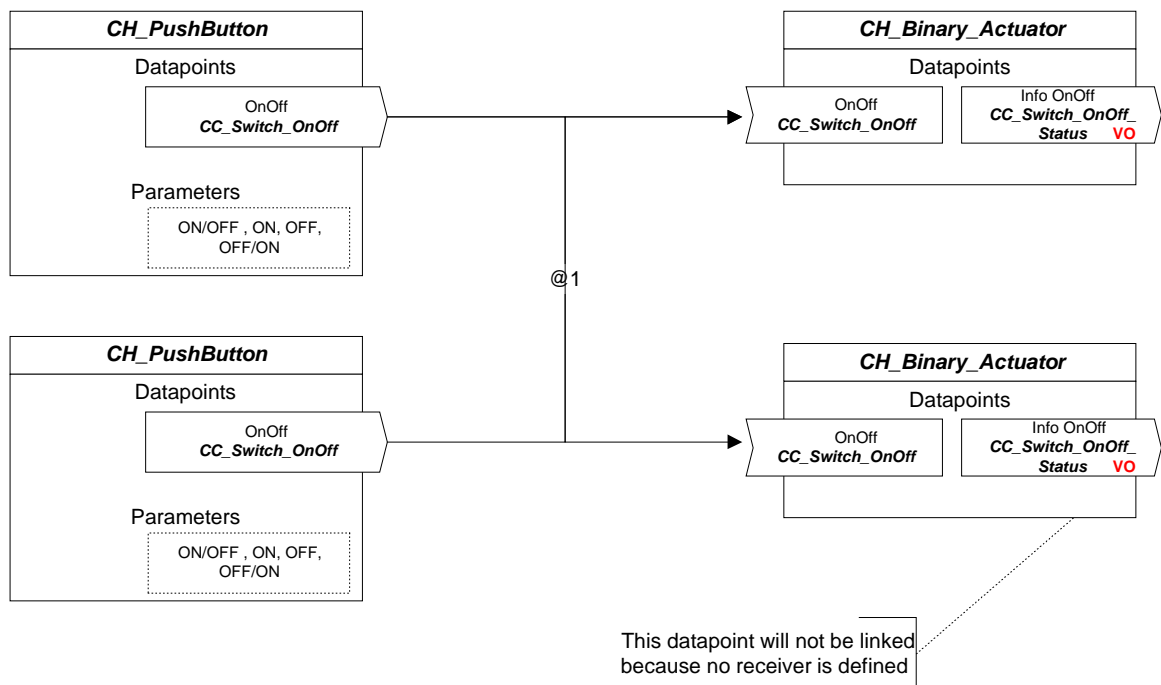


Figure 2 – Example 1

3.2 Example 2: CH_PB_Toggle connected with 2 CH_Binary_Actuator_Basic

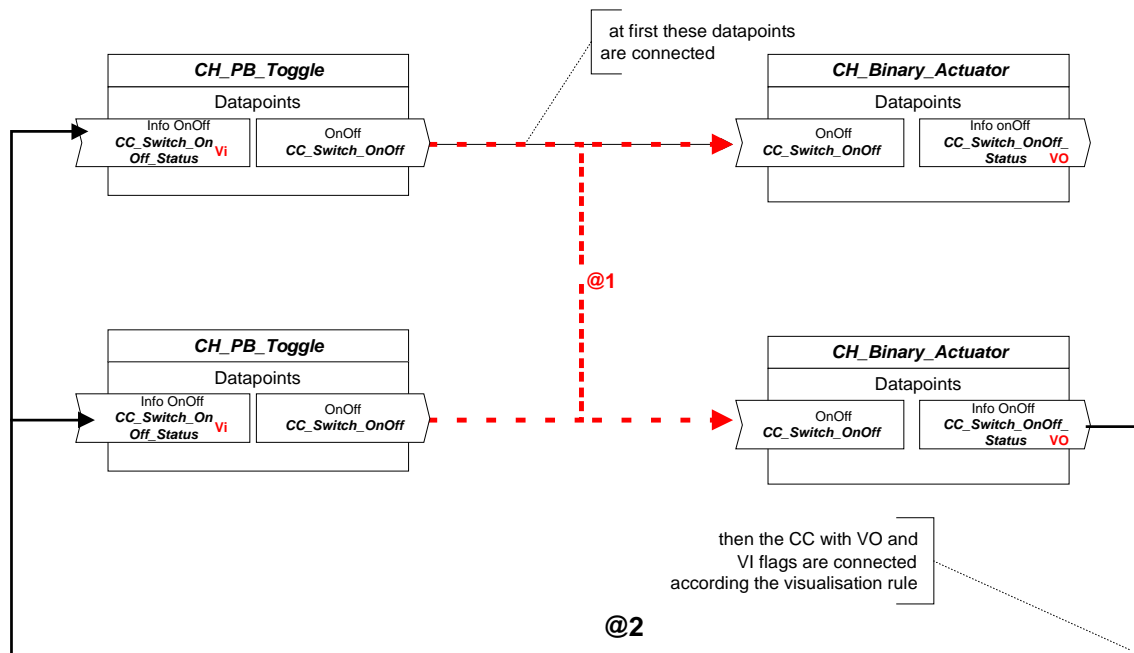


Figure 3 – Example 2: Illustration for V flag connection calculation

3.3 Example 3: CH_PB_Toggle with overlapping group

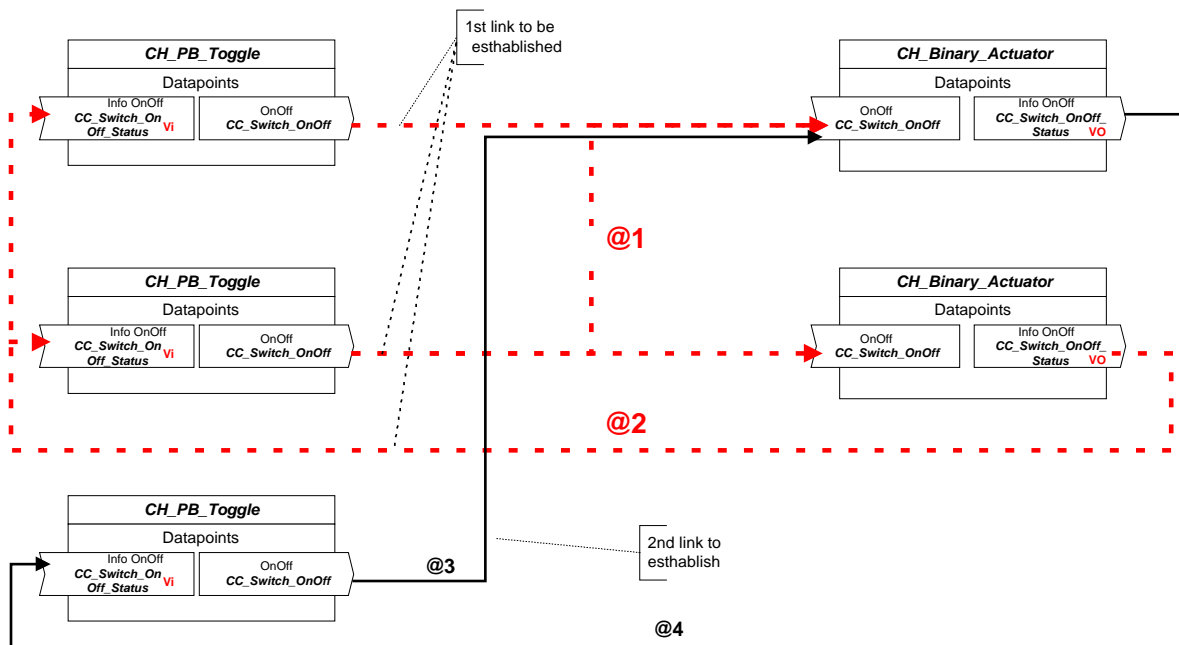


Figure 4 – Example 3, solution 1

This could also have been:

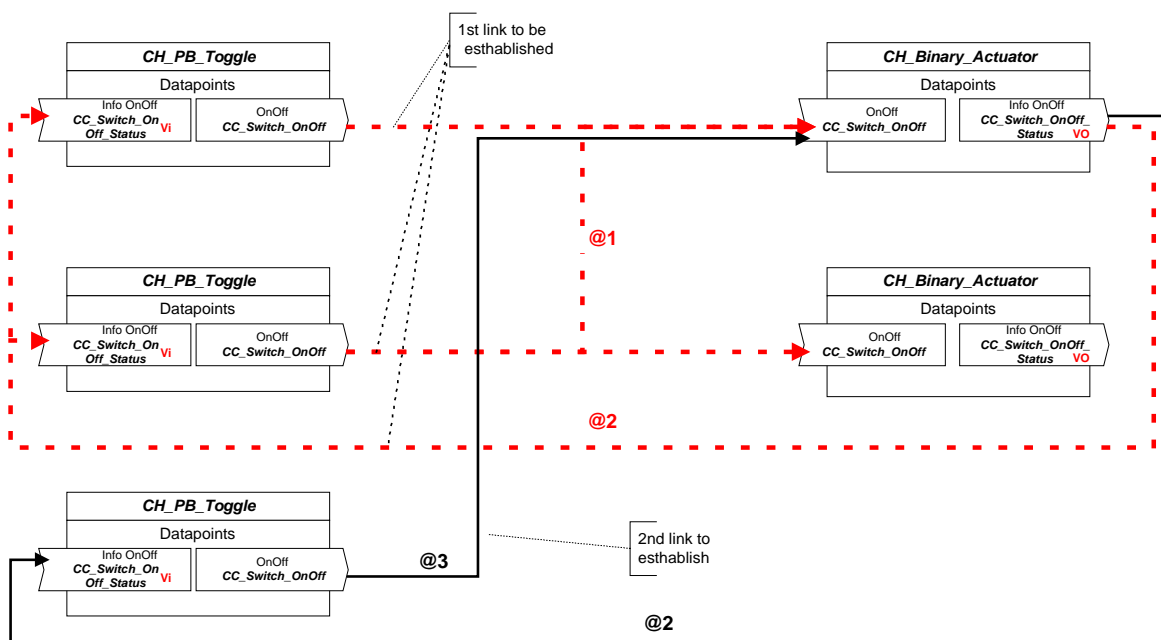


Figure 5 – Example 3, solution 2

Problem: With overlapping group, the configuration sequence influences the result.

3.4 Example 4: CH_PB_Toggle connected with 2 from 3 CH_Binary_Actuator_Basic with a central OFF (CH_PushButton with parameter to allow only OFF values)

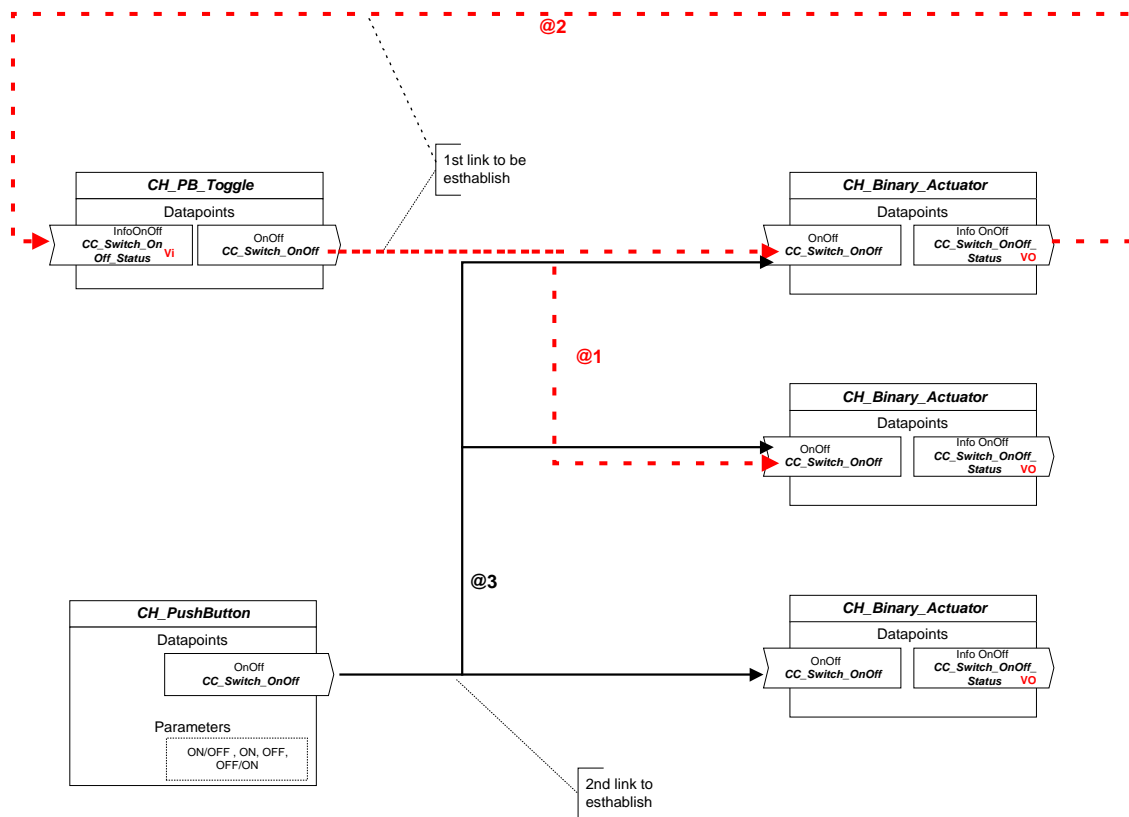


Figure 6 – Example 4

3.5 Example 4: 1 CH_Dimmer_Switch and 1 CH_Dimmer_PB, connected to 2 CH_Dimmer_Actuator_Basic

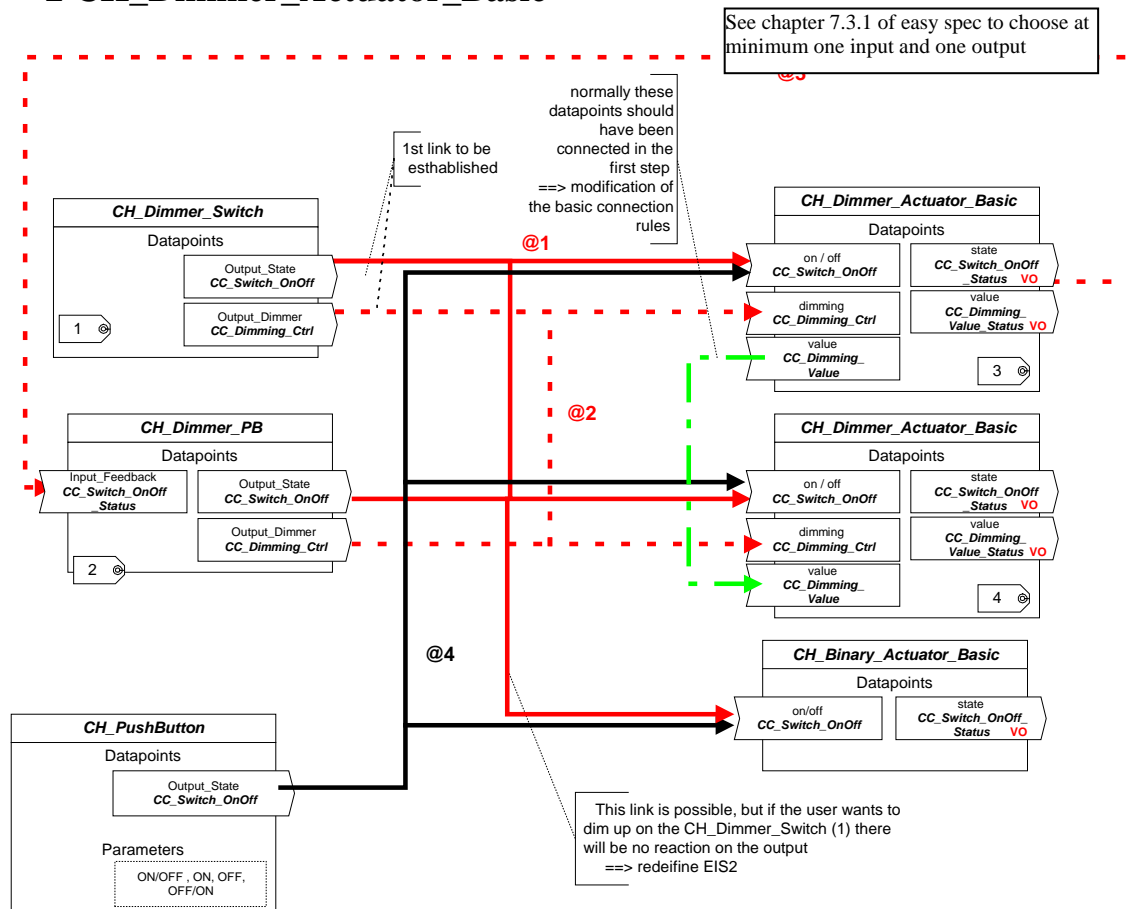


Figure 7 – Example 5

3.6 Example 6: CH_Motion_Detector, CH_PB_TimedON, CH_PB_Forced, CH_PushButton connected to a CH_Binary_Actuator_Complex

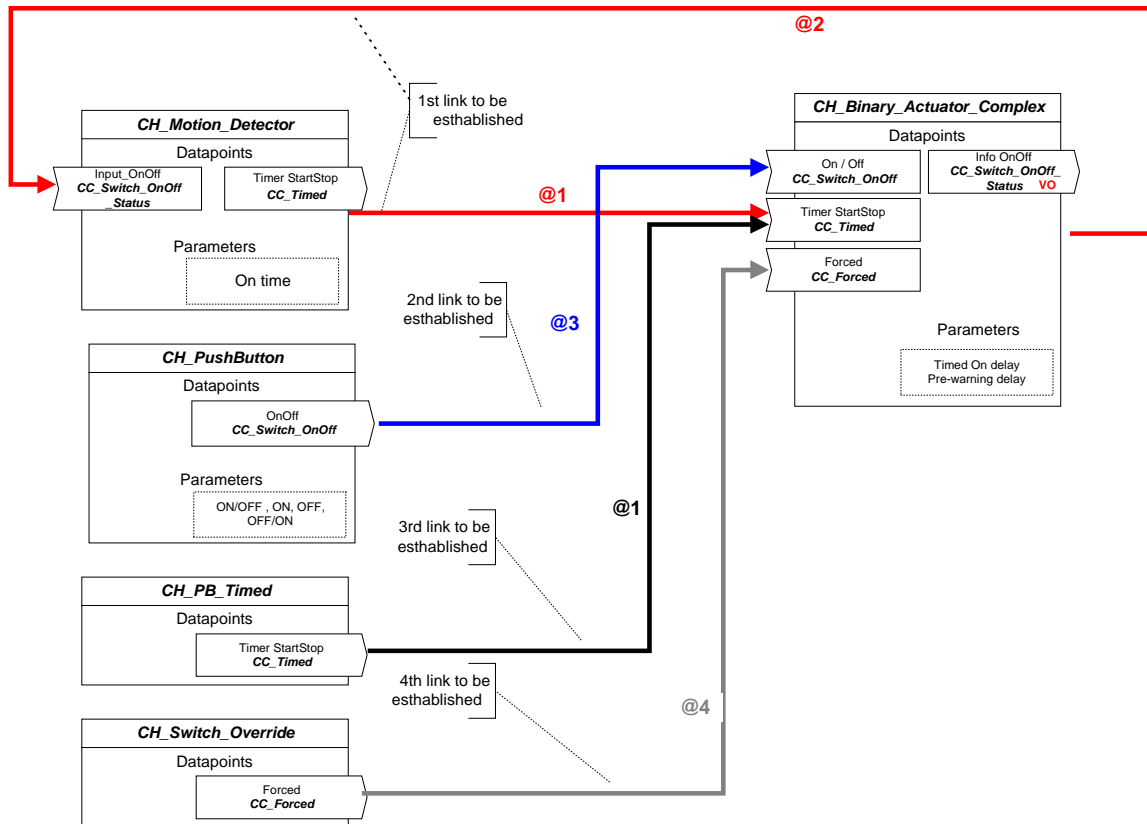


Figure 8 – Example 6

4 Functional Blocks

4.1 Usage requirements

The Functional Block specifications below only provide complementary information to the Channel Definitions specified in this document. They are only provided for completeness and understanding of the these channel definitions.

These Functional Blocks shall be used only for implementation of Easy Configuration mode devices.

These Functional Block specifications shall not be used for any other goal; in particular, no implementation for S-Mode devices shall be based on these specifications.

KNX Association will take care of compatibility between any currently specified Channel Definition and the final version of these Functional Blocks.

To this, the KNX Association Application Specification Groups shall take the functionality achieved by these Functional Blocks as the minimal mandatory basis for further work.

4.2 Functional Block “Room Light Setpoint”

4.2.1 Definitions

- **Name:** FB_Room_Light_Setpoint
- **Application description Block:** Light Setpoint
- **Object Type:** 408

4.2.2 Functional specification

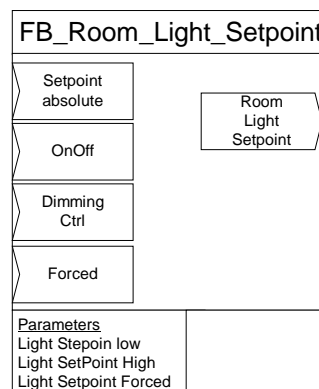
Any update of the Setpoint Absolute is sent on the room light Setpoint datapoint.

The dimming ctrl permits to increase and decrease the actual value of the room light Setpoint. The On/off permits to switch from 0 to actual value of the room light setpoint.

If “Forced” is set to control-off, the Room light Setpoint is forced to “Light Setpoint Forced”. “Light Setpoint Forced” default value = 0. All commands coming from SPA, OO, DC are ignored.

On human interaction, a new value can be calculated and sent on the light Setpoint RLS..

4.2.3 FB description



4.2.3.1 Datapoints

Data Point	Abbr.	Description	Data Point Type
Outputs			
Room Light Setpoint	RLS	Value of the illumination to get	9.004 DPT_Value_Lux
Inputs			
Setpoint Absolute	SPA	To affect directly the RLS	9.004 DPT_Value_Lux
OnOff	OO	To switch the RLS to 0 (off) or current value (on)	1.001 DPT_Switch
Dimming Ctrl	DC	To increase or decrease the RLS value	3.007 DPT_Control_Dimming
Forced	FO	To witch the RLS value to the value of LSF	2.001 DPT_Switch_Control
Parameters			
Light Setpoint Low	LSL	Light setpoint for scaling position 0	9.004 DPT_Value_Lux
Light Setpoint High	LSH	Light setpoint for scaling position 100%	9.004 DPT_Value_Lux
Light Setpoint Forced	LSF	Light setpoint for forced Setpoint (from 0 to 100%)	9.004 DPT_Value_Lux

4.2.3.1.1 Distribution Table

		Basic FB	STANDARD MODE	EXTENDED MODE	
			S-Mode	Standard Mode Interface	LTE-Mode
RLS	GO		-	-	-
Inputs	SPA	GO	-	-	-
	OO	GO	-	-	-
	DC	(GO)	-	-	-
	FO	(GO)	-	-	-
Parameters	LSL	M	-	-	-
	LSH	O	-	-	-
	LSF	M	-	-	-

4.2.3.1.2 Output :Room Light Setpoint

DP Name:	Room light Set Point	Abbr.:	RLS	Mandatory	<input checked="" type="checkbox"/>
FB Name:	408 FB_Room_Light_Setpoint			Can be internal	<input type="checkbox"/>
Description					
This datapoint represents the value calculated by this FB according to the input datapoints received.					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
◆ Output					
this → M	<input checked="" type="checkbox"/>	this → 1	<input type="checkbox"/>		
Spontaneous	<input checked="" type="checkbox"/>	COV:	<input type="checkbox"/>	Δ-Value	Min repetition period:
		Cyclic	<input type="checkbox"/>	Period:	
Request	<input type="checkbox"/>				
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Client	Object_type (server):	PID (property server):			
	Start_index:	Nr_of_elements:			
Dynamics					
Power down:	Save:	<input type="checkbox"/>			
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input type="checkbox"/>
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	<input type="checkbox"/>
Exception Handling					

Special Features					

4.2.3.1.3 Input : OnOff

DP Name:	OnOff	Abbr.:	OO	Mandatory	<input checked="" type="checkbox"/>
FB Name:	408 FB Room Light Setpoint			Can be internal	<input type="checkbox"/>
Description					
To switch the value between 0 and the actual value of Room Light Setpoint					
Datapoint Type					
DPT_Name:	DPT_Switch				
DPT Format:	B ₁	DPT_ID:	1.001		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input type="checkbox"/>
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	<input type="checkbox"/>
Exception Handling					
Special Features					

4.2.3.1.4 Input : Dimming Control

DP Name:	Dimming Control	Abbr.:	DC	Mandatory	<input type="checkbox"/>
FB Name:	408 FB Room Light Setpoint			Can be internal	<input type="checkbox"/>
Description					
To increase or decrease the actual value of the room light setpoint					
Datapoint Type					
DPT_Name:	DPT_Control_Dimming				
DPT Format:	B ₁ U ₃	DPT_ID:	3.007		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint					Mandatory: <input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint					Mandatory: <input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input): <input type="checkbox"/>	
Exception Handling					
Special Features					

4.2.3.1.5 Input : Forced

DP Name:	Forced	Abbr.:	FO	Mandatory	<input type="checkbox"/>
FB Name:	408 FB Room Light Setpoint			Can be internal	<input type="checkbox"/>
Description					
To force the room light setpoint by the value contained in the parameter LSF					
Datapoint Type					
DPT_Name:	DPT_Switch_Control				
DPT Format:	B ₂	DPT_ID:	2.001		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):			<input type="checkbox"/>	Read from bus (only for input):
				<input type="checkbox"/>	<input type="checkbox"/>
Exception Handling					
Special Features					

4.2.3.1.6 Parameter: Light Setpoint Low

DP Name:	Light Setpoint Low	Abbr.:	LSL	Mandatory	<input checked="" type="checkbox"/>
FB Name:	408 - FB_Room_Light_Setpoint			Can be internal	<input type="checkbox"/>
Description					
This parameter is used to set the value of RLS for scaling position 0.					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
Field	Description	Supp.	Range	Unit	Default
Exception Handling					

Special Features					

4.2.3.1.7 Parameter: Light Setpoint High

DP Name:	Light Setpoint High	Abbr.:	LSH	Mandatory	<input type="checkbox"/>
FB Name:	408 - FB_Room_Light_Setpoint			Can be internal	<input type="checkbox"/>
Description					
This parameter is used to set the value of RLS for scaling position 100%					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆		DPT_ID:	9.004	
Field	Description	Supp.	Range	Unit	Default
Exception Handling					

Special Features					

4.2.3.1.8 Parameter: Light Setpoint Forced

DP Name:	Light Setpoint Forced	Abbr.:	LSF	Mandatory	<input checked="" type="checkbox"/>
FB Name:	408 - FB_Room_Light_Setpoint			Can be internal	<input type="checkbox"/>
Description					
This parameter is used to set the value of RLS for forced position					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆		DPT_ID:	9.004	
Field	Description	Supp.	Range	Unit	Default
Exception Handling					

Special Features					

4.3 Functional Block “Room Light Sensor” (RLS)

4.3.1 Definitions

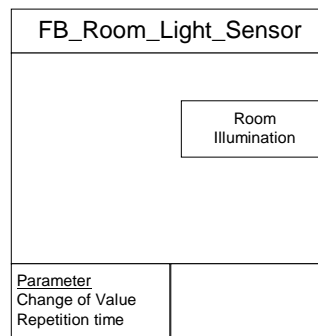
- **Name:** FB_Room_Light_Sensor
- **Application description Block:** Light Sensor
- **Object Type:** 409

4.3.2 Functional specification

Sends the value measured of the current illumination. The conversion light (in lux) into value is standardised

If the variation of illumination changes more than COV then send the new value. If the illumination doesn't change more than COV, then re-sends the value every repetition value.

4.3.3 FB description



4.3.3.1 Datapoints

Data Point	Abbr.	Description	Data Point Type
Outputs			
Room illumination	RI	Output state	9.004 DPT_Value_Lux
Parameters			
Change of Value	P1	Change of value in lux	9.004 DPT_Value_Lux
Repetition Time	P2	Repetition time value in seconds	7.005 DPT_TimePeriodSec

4.3.3.1.1 Distribution Table

		Basic FB	STANDARD MODE	EXTENDED MODE	
			S-Mode	Standard Mode Interface	LTE-Mode
Outputs	RI	GO	-	-	-
Parameters	P1	M1	-	-	-
	P2	M2	-	-	-

¹ In the channel definition this parameter is defined as PART_COV_Lux.

² In the channel definition this parameter is defined as PART_Repetition_Time.

4.3.3.1.2 Output :Room Light Illumination

DP Name:	Room Illumination	Abbr.:	RI	Mandatory	<input checked="" type="checkbox"/>
FB Name:	409 FB_Room_Light_Sensor			Can be internal	<input type="checkbox"/>
Description					
This datapoint represents the current illumination measured by the sensor					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
◆ Output					
this → M	<input checked="" type="checkbox"/>	this → 1	<input type="checkbox"/>		
Spontaneous	<input checked="" type="checkbox"/>	COV:	<input checked="" type="checkbox"/>	Δ-Value	P1
		Cyclic	<input checked="" type="checkbox"/>	Period:	P2
Request	<input type="checkbox"/>				
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Client	Object_type (server):	PID (property server):			
	Start_index:	Nr_of_elements:			
Dynamics					
Power down:	Save:	<input type="checkbox"/>			
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input type="checkbox"/>
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
Transmit on bus (only for output):			<input type="checkbox"/>	Read from bus (only for input):	<input type="checkbox"/>
Exception Handling					

Special Features					

4.3.3.1.3 Parameter: Change of Value

DP Name:	Change of Value	Abbr.:	P1	Mandatory	<input checked="" type="checkbox"/>
FB Name:	409 - FB_Light_Sensor			Can be internal	<input type="checkbox"/>
Description					
This represents the minimal change of the measurement that send a new value on the RLI datapoint					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
Field	Description	Supp.	Range	Unit	Default
Exception Handling					

Special Features					
In channel code PART_COV_Lux is used					

4.3.3.1.4 Parameter: Repetition time

DP Name:	Repetition time	Abbr.:	P2	Mandatory	<input checked="" type="checkbox"/>
FB Name:	409 - FB_Light_Sensor			Can be internal	<input type="checkbox"/>
Description					
This represents the period of emission of RLI when no change of value is detected.					
Datapoint Type					
DPT_Name:	DPT_TimePeriodSec				
DPT Format:	U ₁₆		DPT_ID:	7.005	
Field	Description	Supp.	Range	Unit	Default
Exception Handling					

Special Features					
In channel code PART_Cycle_Time is used					

4.4 Functional Block “Room Light Controller” (RLC)

4.4.1 Definitions

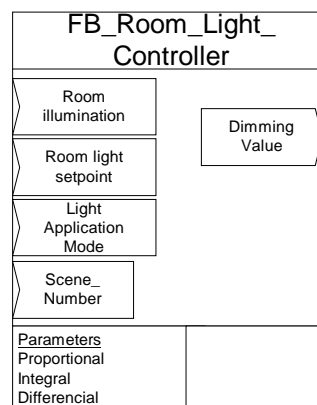
- **Name:** FB_Room_Light_Controller
- **Application description Block:** Light controller
- **Object Type:** 415

4.4.2 Functional specification

The light controller takes into account the current value of the illumination in the room, the current value of the illumination setpoint and works out the command room light power. The calculation may be based on a PID controller

The scene datapoint can be use to activate/learn a state of the FB_Light_Controller for a certain scene_number.

4.4.3 FB description



4.4.3.1 Datapoints

Outputs			
Dimming value	DV	The value of light required (in percent)	5.001 DPT_Scaling

Inputs			
Room illumination	RI	to get the current illumination of the room where the light control is working	9.004 DPT_Value_Lux
Room light setpoint	RLS	The illumination to reach	9.004 DPT_Value_Lux
Light application mode	LAM	To set the mode of the FB	20.005 DPT_LightApplicationMode
Scene Number	SN	To activate or learn a scene	18.001 DPT_SceneControl
Parameters			
Proportional	P1	Parameter of the light regulation	7.001 DPT_Value_2_Ucount
Integral	P2	Parameter of the light regulation	7.001 DPT_Value_2_Ucount
Differential	P3	Parameter of the light regulation	7.001 DPT_Value_2_Ucount

4.4.3.1.1 Distribution Table

		Basic FB	STANDARD MODE	EXTENDED MODE	
			S-Mode	Standard Mode Interface	LTE-Mode
Outputs	DV	GO	-	-	-
Inputs	RI	GO	-	-	-
	RLS	GO	-	-	-
	LAM	(GO)	-	-	-
	SN	(GO)	-	-	-
Parameters	P1	O	-	-	-
	P2	O	-	-	-
	P3	O	-	-	-

4.4.3.1.2 Output : Dimming Value

DP Name:	Dimming Value	Abbr.:	DV	Mandatory	<input checked="" type="checkbox"/>
FB Name:	415 - FB_Room_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
Datapoint Type					
DPT_Name:	DPT_Scaling				
DPT Format:	B ₁	DPT_ID:	5.001		
◆ Output					
this → M	<input checked="" type="checkbox"/>	this → 1	<input type="checkbox"/>		
Spontaneous	<input checked="" type="checkbox"/>	COV:	<input type="checkbox"/>	Δ-Value:	Min repetition period:
		Cyclic	<input type="checkbox"/>	Period:	
Request	<input type="checkbox"/>				
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Client:	Object_type (server):	PID (property server):			
	Start_index:	Nr_of_elements:			
Dynamics					
Power down:	Save:	<input type="checkbox"/>			
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input type="checkbox"/>
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	<input type="checkbox"/>
Exception Handling					

Special Features					

4.4.3.1.3 Input :Room illumination

DP Name:	Room Illumination	Abbr.:	RI	Mandatory	<input checked="" type="checkbox"/>
FB Name:	415 - FB_Room_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
See functional description					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	<input type="checkbox"/>
Exception Handling					
Special Features					

4.4.3.1.4 Input :Room Light Setpoint

DP Name:	Room Light Setpoint	Abbr.:	RLS	Mandatory	<input checked="" type="checkbox"/>
FB Name:	415 - FB_Room_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
See functional description					
Datapoint Type					
DPT_Name:	DPT_Value_Lux				
DPT Format:	F ₁₆	DPT_ID:	9.004		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	
Exception Handling					
Special Features					

4.4.3.1.5 Input :Light Application Mode

DP Name:	Light Application Mode	Abbr.:	LAM	Mandatory	<input type="checkbox"/>
FB Name:	415 - FB_Room_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
See functional description					
Datapoint Type					
DPT_Name:	DPT_LightApplicationMode				
DPT Format:	N ₈	DPT_ID:	20.005		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):		<input type="checkbox"/>	Read from bus (only for input):	
Exception Handling					
Special Features					

4.4.3.1.6 Input :Scene Number

DP Name:	Scene number	Abbr.:	SN	Mandatory	<input type="checkbox"/>
FB Name:	415 - FB_Room_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
See functional description					
Datapoint Type					
DPT_Name:	DPT_SceneControl				
DPT Format:	B ₁ r ₁ U ₆	DPT_ID:	18.001		
Access Type					
◆ Input					
N → this	<input checked="" type="checkbox"/>	1 → this	<input type="checkbox"/>		
Spontaneous Request	<input checked="" type="checkbox"/>	Cyclically:	<input type="checkbox"/>	Time-out:	
	<input type="checkbox"/>	Polling:	<input type="checkbox"/>	Period:	
Communication Type					
◆ Group Object Datapoint				Mandatory:	<input type="checkbox"/>
Default Group Address:		---			
◆ Interface Object Property Datapoint				Mandatory:	<input type="checkbox"/>
• Server	Object_type:		PID:		
	Start_index:		Nr_of_elements:		
Dynamics					
Power down:	Save:				
Power up:	Value:	No initialisation:	<input type="checkbox"/>	Default value:	<input checked="" type="checkbox"/> 0
		Saved value:	<input type="checkbox"/>	Actual value (not for input):	<input type="checkbox"/>
	Transmit on bus (only for output):			<input type="checkbox"/>	Read from bus (only for input):
				<input type="checkbox"/>	<input type="checkbox"/>
Exception Handling					
Special Features					

4.4.3.1.7 Parameter : Proportional

DP Name:	Proportional	Abbr.:	P1	Mandatory	<input type="checkbox"/>
FB Name:	415 - FB_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
Proportional parameter for the light regulation					
Datapoint Type					
DPT_Name:	DPT_Value_2_Ucount				
DPT Format:	U ₁₆	DPT_ID:	7.001		
Field	Description	Supp.	Range	Unit	Default
					0
Exception Handling					

Special Features					

4.4.3.1.8 Parameter : Integral

DP Name:	Integral	Abbr.:	P2	Mandatory	<input type="checkbox"/>
FB Name:	415 - FB_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
Integral parameter for the light regulation					
Datapoint Type					
DPT_Name:	DPT_Value_2_Ucount				
DPT Format:	U ₁₆		DPT_ID:	7.001	
Field	Description	Supp.	Range	Unit	Default
					0
Exception Handling					

Special Features					

4.4.3.1.9 Parameter : Differential

DP Name:	Differential	Abbr.:	P3	Mandatory	<input type="checkbox"/>
FB Name:	415 - FB_Light_Controller			Can be internal	<input type="checkbox"/>
Description					
Differential parameter for the light regulation					
Datapoint Type					
DPT_Name:	DPT_Value_2_Ucount				
DPT Format:	U ₁₆		DPT_ID:	7.001	
Field	Description	Supp.	Range	Unit	Default
					0
Exception Handling					

Special Features					