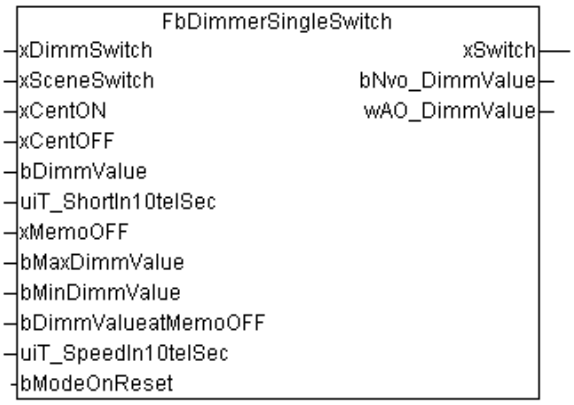
Dimmer single switch

WAGO-I/O-*PRO* 32 Library elements			
Category:	Building automation		
Name:	FBDimmerSingleSwitch		
Type:	Function ☐	Function block ☒	Program ☐
Library name:	Dimmer.lib		
Applicable to:	All programmable fieldbus controllers		
Input parameter:	**Data type:**	**Comment:**	
xDimmSwitch	BOOL	Switch signal switching/dimming	
xSceneSwitch	BOOL	Scene switch	
xCentON	BOOL	Central command, output activation	
xCentOFF	BOOL	Central command, output deactivation	
bDimmValue	BYTE	Setting output to value (0 – 200)	
uiT_ShortIn10telSec	UINT	Time for a brief key actuation Value range 3 – 100 [0,1s] Default setting = 5	
xMemoOFF	BOOL	Deactivating memory function Default setting = TRUE	
bMaxDimmValue	BYTE	Parameter value max. light Value range 0 – 200 Default setting = 200	
bMinDimmValue	BYTE	Parameter value minimum light Value range 0 – 200 Default setting = 10	
bDimmValueatMemoOFF	BYTE	Switch-on light (if no memory) Value range 0 – 200 Default setting = 200	
uiT_SpeedIn10telSec	UINT	Dimming time from Hmin → Hmax Value range 30 – 1000 Default setting = 50	
bModeOnReset	BYTE	Behavior after reset 0=AUS; 1=EIN; 3 = --- Default setting = 3	
Feedback value:	**Data type:**	**Comment:**	
xSwitch	BOOL	Switching signal output	
bNvo_DimmValue	BYTE	Dimmer signal output via nvo to LON Value range 0 - 200	
wAODimmValue	WORD	Dimmer signal output internally to 1 – 10V Value range 0 - 32767	

Graphical display:



Function description:

A lamp can be dimmed by means of the function module “DimmerEinfachTaster“.

The dimmer switch module evaluates short and long key actuation at the ***“xDimmSwitch“*** input. the input is protected by a debounce time of approx. 50ms. In the event of a long actuation of key (parameterizable actuation time ***“uiT_ShortIn10telSec“***) dimming up or down is performed by two output objects. The dimming value is put out by two different data formats. On the one hand an adaptation is made to the SNVT_switch (***“bNvo_DimmValue“*** 0-200), on the other hand to the analog module 0-10V ***(“wAODimmValue“*** 0 - 32767). Following dimming up and stopping at the desired light, the next key actuation is a down dimming process. Dimming ON is possible by means of a long key actuation. If the key actuation is shorter than the parameterized time, an ON/OFF telegram is transmitted. The objects ***“xCentON“*** and ***“xCentOFF“*** allow to switch the function module via a central command ON and OFF. The function module can also be addressed via a value object (e.g. from a scene module). If a light value is received on the ***“bDimmValue“*** object, the lighting switches on at the corresponding light value. Subsequently the light can be changed again via the switch signal. This means that the value object only influences the output signal of the tip dimmer module in the event of a value change. The lighting can also be switched off via the value input, if the 0 value is received. It is possible, via the ***“ xSceneSwitch“*** input, to re-activate the light value of the ***“bDimmValue“*** object as the output value of the tip dimmer module. This might become possible in conjunction with the scene module.

The last dimming value is saved when switching OFF and transmitted when switching ON again. This memory function can be de-activated for the purpose of parameterizing a fixed switch-on light. The switch-on light is determined by ***“bDimmValueatMemoOFF“***, prerequisite being that the memory function is de-activated.

The minimum and the maximum light level is entered as a default value by means of the parameters ***“bMinDimmValue“*** and ***“bMaxDimmValue“***.

Parameter ***“uiT_SpeedIn10telSec“*** is the dimming time during which the light signal changes from ***“bMinDimmValue“*** to ***“bMaxDimmValue“***.

If for the time ***“uiT_SpeedIn10telSec***“ a value outside of the value range (30 – 1000 [0.1s]) is entered, then the top or the bottom limit value is set.

Parameter ***“bModeOnReset“*** determines the function module behavior following a reset at the coupler. The following settings are possible for this parameter:

0 = Switching OFF following a reset

1 = Switching ON following a reset

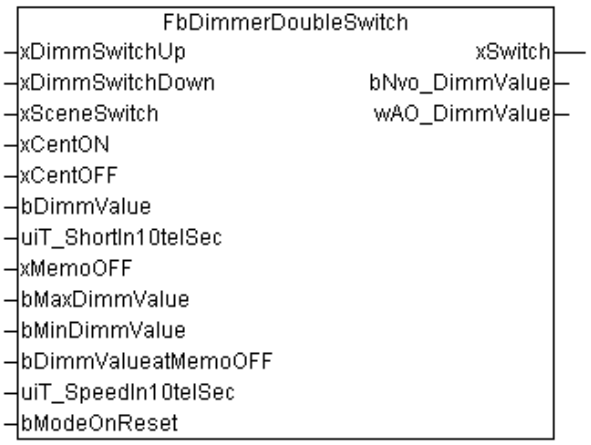
3 = No change following a reset (the initial value before reset is restored)

Note:
This function block uses some residual variables having a **VAR_RETAIN** declaration.

Dimmer double switch

WAGO-I/O-*PRO* 32 Library elements			
Category:	Building automation		
Name:	FbDimmerDoubleSwitch		
Type:	Function ☐	Function block ☒	Program ☐
Library name:	Dimmer.lib		
Applicable to:	All programmable fieldbus controllers		
Input parameter:	**Data type:**	**Comment:**	
xDimmSwitchUP	BOOL	Switch signal switching ON/OFF / Dimming UP	
xDimmSwitchDown	BOOL	Switch signal switching ON/OFF / Dimming DOWN	
xSceneSwitch	BOOL	Scene switch	
xCentON	BOOL	Central command, output activation	
xCentOFF	BOOL	Central command, output de-activation	
bDimmValue	BYTE	Setting output to value (0 – 200)	
uiT_ShortIn10telSec	UINT	Time for a brief key actuation Value range 3 – 100 [0,1s] Default setting = 5	
xMemoOFF	BOOL	Deactivating memory function Default setting = TRUE	
bMaxDimmValue	BYTE	Parameter value maximum light Value range 0 – 200 Default setting = 200	
bMinDimmValue	BYTE	Parameter value minimum light Value range 0 – 200 Default setting = 10	
bDimmValueatMemoOFF	BYTE	Switch-on light (if no memory) Value range 0 – 200 Default setting = 200	
uiT_SpeedIn10telSec	UINT	Dimming time from Hmin → Hmax Value range 30 – 1000 Default setting = 50	
bModeOnReset	BYTE	Behavior after reset 0=OFF; 1=ON; 3 = --- Default value = 3	
Feedback value:	**Data type:**	**Comment:**	
xSwitch	BOOL	Switching signal output	
bNvo_DimmValue	BYTE	Dimmer signal output via nvo to LON Value range 0 - 200	
wAODimmValue	WORD	Dimmer signal output internally to 1 – 10V Value range 0 - 32767	

Graphical display:



Time referenced behavior:

Function description:

The function module “DimmerDoubleSwitch“ is comparable to the function module “DimmerSingleSwitch“. The difference resides in the access of the function module with one double switch to both input objects ***“xDimmSwitchUP“*** and ***“xDimmSwitchDown“***. This permits dimming UP or DOWN of the light in a defined manner. It is thus possible to always determine the dimming direction. A short pulse (< as ***“uiT_ShortIn10telSec“***) on one of the two inputs provokes switching ON or OFF of the lighting. A long switch pulse (> as ***“uiT_ShortIn10telSec“***) on the ***“xDimmSwitchUP“*** input results in dimming UP up to ***“bMaxDimmValue“*** and a long switch pulse on ***“xDimmSwitchDown“*** in dimming DOWN to ***“bMinDimmValue“.***

Note:
This function block uses some residual variables having a **VAR_RETAIN** declaration.