

12 S2 On-off-toggle/Dim/Shu/Display 222001

Devices Employing the Program

Product family:	Push button
Product type:	Push button, 2-fold
Manufacturer:	Siemens
Name:	Push button UP 222E electro white / i-system
Order-no.:	5WG1 222-2EB01
Name:	Push button UP 222E titanium white / i-system
Order-no.:	5WG1 222-2EB11
Name:	Push button UP 222E carbon metallic / i-system
Order-no.:	5WG1 222-2EB21
Name:	Push button UP 222E aluminium metallic / i-system
Order-no.:	5WG1 222-2EB31

Application Description

The application program "12 S2 On-Off-Toggle/Dim/Shu/Display 222001" provides parameters to realizing switching, dimming, blinds control, and status display via LEDs with the push button 2-fold.

The operating modes to the rockers can be selected with the parameter "Function of upper rocker" and "Function of lower rocker". According to the mode selected, the "Upper rocker" and "Lower rocker" parameter windows display appropriate parameters in their default setting.

Furthermore, the type of the objects corresponding to the rockers changes automatically (upper rocker: object [1], lower rocker: object [3]) when switching e.g. from switching mode (1 bit) to dimming mode (4 bit).

Rocker:

The various modes can be selected individually to each rocker by setting the parameters "Upper rocker: Function of upper rocker" and "Lower rocker: Function of lower rocker" accordingly:

Switching:

Upon operating the rocker an appropriate telegram is sent (On/Off/Toggle).

Blinds Control:

The application program distinguishes between long and short switch operations. On a long operation of the rocker a telegram is sent to raising (up) or lowering (down) the blinds. On a short operation a telegram is sent to adjusting the louvres or halting the blinds if moving up or down.

Dim by stop telegrams:

The application program distinguishes between long and short switch operations. A short switch operation sends a switching telegram (e.g. left rocker contact: "On", right rocker contact: "Off"). When operating the rocker to a

longer period of time (threshold can be adjusted in the parameter list), a dimming telegram (left rocker contact: "Darker", right rocker contact: "Darker") is sent. On releasing the rocker, a stop telegram is sent.

Dim by cyclic sending:

The application program distinguishes between long and short switch operations. A short switch operation sends a switching telegram (e.g. left rocker contact: "On", right rocker contact: "Off"), a long switch operation sends dimming telegrams (left rocker contact: "Darker", right rocker contact: "Darker") with the frequency specified in the parameter list until the rocker is released.

LED display

The two LEDs situated left beside the two right rocker contacts can be set to display actual object status or to use as orientation lights. The centre LED between the two rockers can be permanently disabled or used as orientation light.

Communication Objects (Switch)

Number	Name	Funktion	Länge
0	Switch upper rocker	On	1 bit
1	Switch upper rocker	Off	1 bit
2	Switch lower rocker	On	1 bit
3	Switch lower rocker	Off	1 bit

Note:

The order of the entries may vary from the above due to individual customization of the table.

Obj	Function	Object name	Type	Flags
0	On Off Toggle	Switch upper rocker	1-Bit	CUWT
This is the switching object of the left rocker contact of the upper rocker. According to the parameter settings (see parameter: "Left contact") "On" or "Off" telegrams are sent. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
1	On Off Toggle	Switch upper rocker	1-Bit	CUWT
This is the switching object the right rocker contact of the upper rocker. According to the parameter settings (see parameter: "Right contact") "On" or "Off" telegrams are sent. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
2	On Off Toggle	Switch lower rocker	1-Bit	CUWT
This is the switching object of the left rocker contact of the lower rocker. According to the parameter settings (see parameter: "Left contact ") "On" or "Off" telegrams are sent. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				

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Obj	Function	Object name	Type	Flags
3	On Off Toggle	Switch lower rocker	1-Bit	CUWT

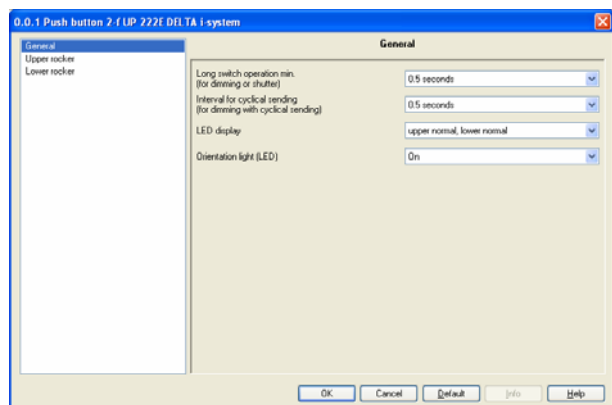
This is the switching object of the right rocker contact of the lower rocker. According to the parameter settings (see parameter: "Right contact ") "On" or "Off" telegrams are sent. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.

Maximum number of group addresses: 13

Maximum number of assignments: 13

Parameters

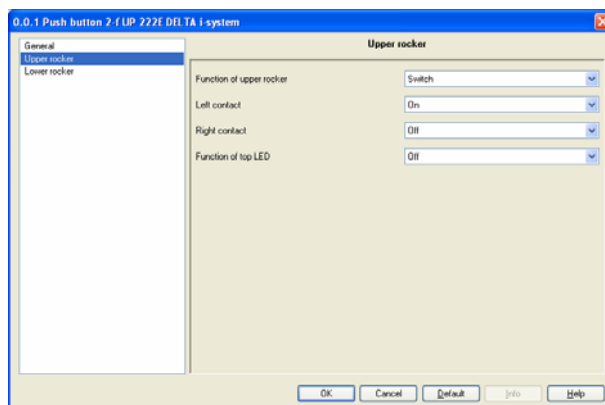
General:



Parameters	Settings
Long switch operation min. (for dimming or shutter control)	0,3; 0,4; 0,5 ; 0,6; 0,8; 1,0; 1,2; 1,5; 2,0; 2,5; 3,0; 4,0; 5,0; 6,0; 7,0 seconds
This parameter defines the operating period to generate long and short switch operations. Operating the rocker longer than the selected period produces a long switch operation.	
Interval for cyclical sending (for dimming with cyclical sending)	0,3; 0,4; 0,5 ; 0,6; 0,8; 1,0; 1,2; 1,5; 2,0; 2,5; 3,0; 4,0; 5,0; 6,0; 7,0 seconds
This parameter governs the frequency to cyclic sending on a long switch operation. Consider busload when setting the cyclic send frequency.	
LED display	upper: normal, lower: normal upper: inverted, lower: inverted upper: normal, lower: inverted upper: inverted, lower: normal
This parameter defines how the two LEDs (beside the right rocker contacts) will display object status.	
Orientation light (LED)	enabled disabled
This parameter governs whether the central LED is disabled or used as an orientation light.	

Parameters (Switch)

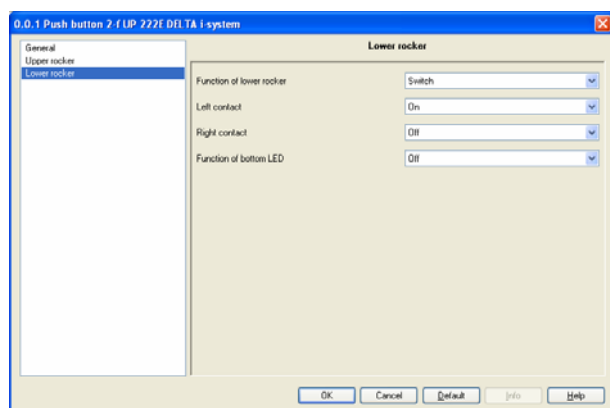
Upper rocker:



Parameters	Settings
Function of upper rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode to the upper rocker. According to the mode selected, the "Upper rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [1] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left contact	On Off Toggle
This parameter governs whether an "On" or "Off" telegram is sent via object [0] on operating the left rocker contact of the upper rocker. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.	
Right contact	On Off Toggle
This parameter governs whether an "On" or "Off" telegram is sent via object [0] on operating the left rocker contact of the upper rocker. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.	
Function of top LED	Off On Status of upper rocker object [0] Status of upper rocker object [1] Status of lower rocker obj. [2]
The LED left beside the upper right rocker contact can be set to display the status of an object (either object [0], object [1], or object [2]) or to use as an orientation light.	

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Lower rocker:



Parameters	Settings
Function of lower rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode to the lower rocker. According to the mode selected, the "Lower rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [3] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left contact	On Off Toggle
This parameter governs whether an "On" or "Off" telegram is sent via object [0] on operating the left rocker contact of the lower rocker. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.	
Right contact	On Off Toggle
This parameter governs whether an "On" or "Off" telegram is sent via object [0] on operating the right rocker contact of the lower rocker. When set to "Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.	
Function of bottom LED	Off On Status of right rocker obj. [2] Status of right rocker obj. [3] Status of left rocker object [0]
The LED beside the lower right rocker can be set to display the status of an object (either object [2], object [3], or object [0]) or to use as an orientation light.	

Communication Objects (Shutter)

Nummer	Name	Funktion	Länge
0	Louvres upper rocker	Open / Closed	1 bit
1	Shutter upper rocker	Up / Down	1 bit
2	Louvres lower rocker	Open / Closed	1 bit
3	Shutter lower rocker	Up / Down	1 bit

Note:

The order of the entries may vary from the above due to individual customization of the table.

Obj	Function	Object name	Type	Flags
0	Open/Close	Louvres upper rocker	1-Bit	CUWT
This is the switching object to adjusting louvres on a short switch operation: When using the default setting (see parameter window "Upper rocker: Left/Right contact"), a operation of the left rocker contact opens the louvres by one step with an "Off" telegram and a operation of the right rocker contact closes the louvres by one step with an "On" telegram				
1	Up/Down	Shutter upper rocker	1- Bit	CUWT
This is the switching object to raising (up) and lowering (down) the blinds on a long switch operation: When using the default setting (see parameter window "Upper rocker: Left/Right contact"), a operation of the left rocker contact raises (up) the blinds with an "Off" telegram and a operation of the right rocker contact lowers (down) the blinds with an "On" telegram. A short switch operation halts a moving blind.				
2	Open/Close	Louvres lower rocker	1- Bit	CUWT
This is the switching object to adjusting louvres on a short switch operation: When using the default setting (see parameter window "Lower rocker: Left/Right contact"), a operation of the left rocker contact opens the louvres by one step with an "Off" telegram and a operation of the right rocker contact closes the louvres by one step with an "On" telegram				
3	Up/Down	Shutter lower rocker	1- Bit	CUWT
This is the switching object to raising (up) and lowering (down) the blinds on a long switch operation: When using the default setting (see parameter window "Lower rocker: Left/Right contact"), a operation of the left rocker contact raises (up) the blinds with an "Off" telegram and a operation of the right rocker contact lowers (down) the blinds with an "On" telegram. A short switch operation halts a moving blind.				

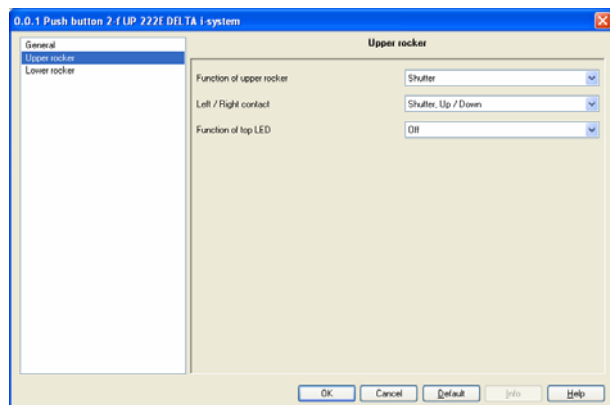
Maximum number of group addresses: 13

Maximum number of assignments: 13

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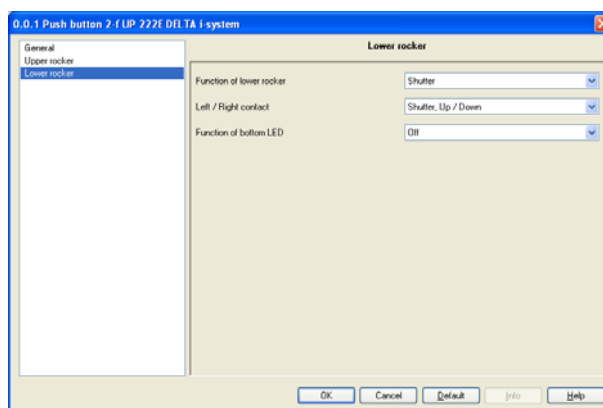
Parameters (Shutter)

Upper rocker:



Parameters	Settings
Function of upper rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode to the upper rocker. According to the mode selected, the "Upper rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [1] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left / Right contact	Shutter, Up/Down Shutter, Down/Up
This parameter defines the operating mode to the left rocker contact and the right rocker contact of the upper rocker. When using the default setting, a short operation of the left rocker contact opens the louvres by one step with an "Off" telegram and a short operation of the right rocker contact closes the louvres by one step with an "On" telegram. A long operation of the left rocker contact raises (up) the blinds with an "Off" telegram and a long operation of the right rocker contact lowers (down) the blinds with an "On" telegram.	
Function of top LED	Off On Status of upper rocker object [0] Status of upper rocker object [1] Status of lower rocker obj. [2]
The LED left beside the upper right rocker contact can be set to display the status of an object (either object [0], object [1], or object [2]) or to use as an orientation light.	

Lower rocker:



Parameters	Settings
Function of lower rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode to the lower rocker. According to the mode selected, the "lower rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [3] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left / Right contact	Shutter, Up/Down Shutter, Down/Up
This parameter defines the operating mode to the left rocker contact and the right rocker contact of the lower rocker. When using the default setting, a short operation of the left rocker contact opens the louvres by one step with an "Off" telegram and a short operation of the right rocker contact closes the louvres by one step with an "On" telegram. A long operation of the left rocker contact raises (up) the blinds with an "Off" telegram and a long operation of the right rocker contact lowers (down) the blinds with an "On" telegram.	
Function of bottom LED	Off On Status of right rocker obj. [2] Status of right rocker obj. [3] Status of left rocker object [0]
The LED left beside the lower right rocker contact can be set to display the status of an object (either object [2], object [3], or object [0]) or to use as an orientation light.	

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Communication Objects (Dimming with stop telegram)

Numer	Name	Funktion	Länge
0	Dimming On / Off upper rocker	On / Off	1 bit
1	Dimming upper rocker	Brighter / Darker	4 bit
2	Dimming On / Off lower rocker	On / Off	1 bit
3	Dimming lower rocker	Brighter / Darker	4 bit

Note:

The order of the entries may vary from the above due to individual customization of the table.

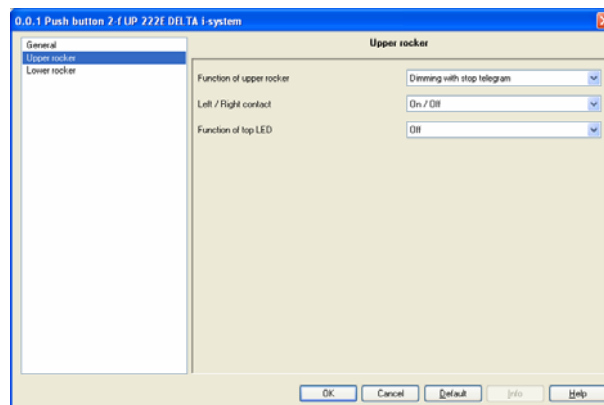
Obj	Function	Object name	Type	Flags
0	On/Off	Dimming On/Off upper rocker	1-Bit	CUWT
This is the switching object of the upper rocker to short switch operations: When using the default setting (see parameter window "Upper rocker Left/Right contact"), a operation of the left rocker contact sends an "On" telegram and a operation of the right rocker contact sends an "Off" telegram. When set to "Toggle/ Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
1	Brighter/darker	Dimming upper rocker	4-Bit	CUWT
This is the switching object of the upper rocker switch to sending a dimming telegram on a long switch operation: a operation of the left rocker contact sends a "Darker" telegram and a operation of the right rocker contact sends a "Darker" telegram. On releasing the rocker the "stop" telegram is sent.				
2	On/Off	Dimming On/Off lower rocker	1-Bit	CUWT
This is the switching object of the lower rocker to short switch operations: When using the default setting (see parameter window "Lower rocker Left/Right contact"), a operation of the left rocker contact sends an "On" telegram and a operation of the right rocker contact sends an "Off" telegram. When set to "Toggle/ Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
3	Brighter / Darker	Dimming lower rocker	4-Bit	CUWT
This is the switching object of the lower rocker switch to sending a dimming telegram on a long switch operation: a operation of the left rocker contact sends a "Darker" telegram and a operation of the right rocker contact sends a "Darker" telegram. On releasing the rocker the "Stop" telegram is sent.				

Maximum number of group addresses: 13

Maximum number of assignments: 13

Parameters (Dimming with stop telegram)

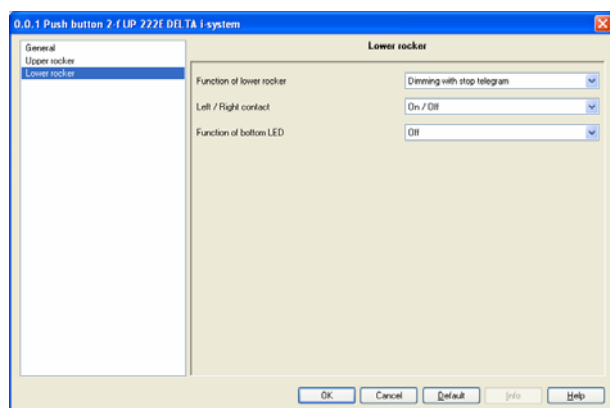
Upper rocker:



Parameters	Settings
Function of upper rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode of the upper rocker. According to the mode selected, the "Upper rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [1] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left / Right contact	Toggle/Toggle On/Off
This parameter defines the operating mode to the left rocker contact and the right rocker contact of the upper rocker. When using the default setting a short operation of the left rocker contact sends an "On" telegram and a short operation of the right rocker contact sends an "Off" telegram. A long operation (see parameter "Long switch operation min.") of the left rocker contact sends a "Darker" telegram and a long operation of the right rocker contact sends a "Darker" telegram. On releasing the rocker the "Stop" telegram is sent. When set to "Toggle/Toggle", a telegram is sent ("On" or "Off") on a short switch operation appropriate to change the actual signal status. Like the "On/Off" mode, this does not affect any dimming operations.	
Function of top LED	Off On Status of upper rocker object [0] Status of lower rocker obj. [2]
The LED left beside the upper right rocker contact can be set to display the status of an object (object [0] or object [2]) or to use as orientation lights.	

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Lower rocker:



Parameters	Settings
Function of lower rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode of the lower rocker. According to the mode selected, the "Lower rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [3] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left / right contact	Toggle/Toggle On/Off
This parameter defines the operating mode to the left rocker contact and the right rocker contact of the lower rocker. When using the default setting a short operation of the left rocker contact sends an "On" telegram and a short operation of the right rocker contact sends an "Off" telegram. A long operation (see parameter "Long switch operation min.") of the left rocker contact sends a "Darker" telegram and a long operation of the right rocker contact sends a "Darker" telegram. On releasing the rocker the "Stop" telegram is sent. When set to "Toggle/Toggle", a telegram is sent ("On" or "Off") on a short switch operation appropriate to change the actual signal status. Like the "On/Off" mode, this does not affect any dimming operations.	
Function of bottom LED	Off On Status of lower rocker obj. [2] Status of upper rocker object [0]
The LED left beside the right lower rocker contact can be set to display the status of an object (object [0] or object [2]) or to use as orientation lights.	

Communication Objects (Dim. with cyclical sending)

Nummer	Name	Funktion	Länge
0	Dimming On / Off upper rocker	On / Off	1 bit
1	Dimming upper rocker	Brighter / Darker	4 bit
2	Dimming On / Off lower rocker	On / Off	1 bit
3	Dimming lower rocker	Brighter / Darker	4 bit

Note:

The order of the entries may vary from the above due to individual customization of the table.

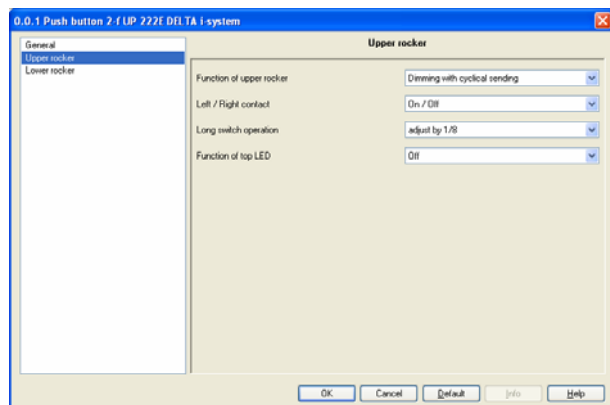
Obj	Function	Object name	Type	Flags
0	On/Off	Dimming On/Off upper rocker	1-Bit	CUWT
This is the switching object of the upper rocker to short switch operations: When using the default setting (see parameter window "Upper rocker Left/Right contact"), a operation of the left rocker contact sends an "On" telegram and a operation of the right rocker contact sends an "Off" telegram. When set to "Toggle/ Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
1	Brighter/Darker	Dimming upper rocker	4-Bit	CUWT
This is the switching object of the upper rocker to sending a dimming telegram on a long switch operation: a operation of the left rocker contact repeatedly sends a "Darker" telegram and a operation of the right rocker contact sends a "Darker" telegram with the frequency specified in the parameter "Interval for cyclical sending".				
2	On/Off	Dimming On/Off lower rocker	1-Bit	CUWT
This is the switching object of the lower rocker to short switch operations: When using the default setting (see parameter window "Right rocker Upper/Lower contact"), a operation of the left rocker contact sends an "On" telegram and a operation of the right rocker contact sends an "Off" telegram. When set to "Toggle/ Toggle", telegrams are sent ("On" or "Off") appropriate to change the actual signal status.				
3	Brighter /Darker	Dimming lower rocker	4-Bit	CUWT
This is the switching object of the lower rocker to sending a dimming telegram on a long switch operation: a operation of the left rocker contact repeatedly sends a "Darker" telegram and a operation of the right rocker contact sends a "Darker" telegram with the frequency specified in the parameter "Interval for cyclical sending".				

Maximum number of group addresses: 13
Maximum number of assignments: 13

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Parameters (Dim. with cyclical sending)

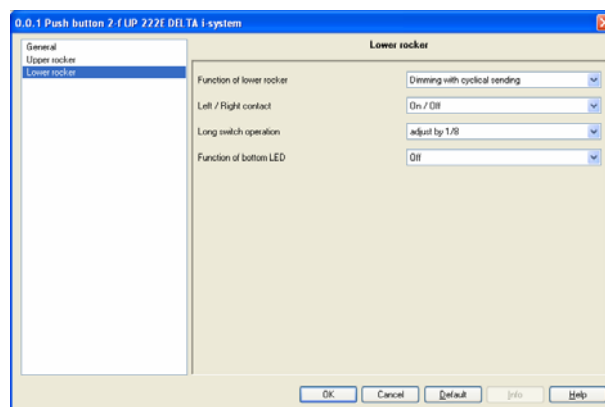
Upper rocker:



Parameters	Settings
Function of upper rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode of the upper rocker. According to the mode selected, the "Upper rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [1] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	
Left / Right contact	Toggle/Toggle On/Off
This parameter defines the operating mode to the left rocker contact and the right rocker contact of the upper rocker. When using the default setting, a short operation of left rocker contact sends an "On" telegram and a short operation of the right rocker contact sends an "Off" telegram. A long operation (see parameter "Long switch operation min.") of the left rocker contact repeatedly sends a "Darker" telegram and a long operation of the right rocker contact repeatedly sends a "Darker" telegram with the frequency specified in the parameter list (see parameter "Interval for cyclical sending") until the rocker is released. When set to "Toggle/Toggle", a telegram is sent ("On" or "Off") on a short switch operation appropriate to change the actual signal status. Like the "On/Off" mode, this does not affect any dimming operations.	

Parameters	Settings
Long switch operation	adjust by 100% adjust by 1/2 adjust by 1/4 adjust by 1/8 adjust by 1/16 adjust by 1/32 adjust by 1/64
This parameter defines the change in light intensity a dimming telegram is to establish on a long switch operation. When set to e.g. "adjust by 1/8", 8 dimming telegrams are required to change the light intensity from 0% to 100%.	
Function of top LED	Off On Status of upper rocker object [0] Status of lower rocker obj. [2]
The LED left beside the upper right rocker contact can be set to display the status of an object (object [0] or object [2]) or to use as orientation lights.	

Lower rocker:



Parameters	Settings
Function of lower rocker	Switch Shutter Dim. with stop telegram Dim. with cyclical sending
This parameter governs the operating mode of the lower rocker. According to the mode selected, the "Lower rocker" parameter window displays the appropriate parameters in their default setting. Furthermore, the type of object [1] changes automatically (e.g. from 1 bit to switching to 4 bit to dimming) as given below: Switching (object type: 1 bit) Shutter (object type: 1 bit) Dimming by stop telegram (object type: 4 bit) Dimming by cyclic sending (object type: 4 bit)	

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Parameters	Settings
Left / Right contact	Toggle/Toggle On/Off
<p>This parameter defines the operating mode to the left rocker contact and the right rocker contact of the lower rocker. When using the default setting, a short operation of the left rocker contact sends an "On" telegram and a short operation of the right rocker contact sends an "Off" telegram.</p> <p>A long operation (see parameter "Long switch operation min.") of the left rocker contact repeatedly sends a "Darker" telegram and a long operation of the right rocker contact repeatedly sends a "Darker" telegram with the frequency specified in the parameter list (see parameter "Interval for cyclical sending ") until the rocker is released.</p> <p>When set to "Toggle/Toggle", a telegram is sent ("On" or "Off") on a short switch operation appropriate to change the actual signal status. Like the "On/Off" mode, this does not affect any dimming operations.</p>	
Long switch operation	adjust by 100% adjust by 1/2 adjust by 1/4 adjust by 1/8 adjust by 1/16 adjust by 1/32 adjust by 1/64
<p>This parameter defines the change in light intensity a dimming telegram is to establish on a long switch operation. When set to e.g. "adjust by 1/8", 8 dimming telegrams are required to change the light intensity from 0% to 100%.</p>	
Function of bottom LED	Off On Status of right rocker obj. [2] Status of left rocker object [0]
<p>The LED left beside the lower right rocker contact can be set to display the status of an object (object [0] or object [2]) or to use as orientation lights.</p>	

Notes: