

12 S4 On/Off/Toggle/Value 241901

Use of the application program

Product family: Push button
 Product type: Push button, 4-fold
 Manufacturer: Siemens

Name: Pushbutton UP 245, quadruple, neutral
 DELTA profil

Order-no.: 5WG1 245-2AB_1

Name: Pushbutton UP 246, quadruple, with
 symbols
 DELTA profil

Order-no.: 5WG1 246-2AB_1

Name: Pushbutton UP 287, quadruple, neutral
 DELTA style

Order-no.: 5WG1 287-2AB_1

Application Description

Using the application program "12 S4 On/Off/Toggle/Value 241901", the four rockers of the pushbutton quadruple can be independently assigned parameters for the following functions: Switching on/off/toggle, sending 8-bit value, each of the 4 LEDs can operate as a status display or be permanently switched on/off, 5th LED (in the centre of the pushbutton) can be permanently switched on/off as an orientation light.

One pair of pushbuttons, consisting of the upper and lower pushbutton together with the LED for the upper pushbutton, forms a unit. The upper and lower pushbuttons always refer to a separate object. The execution of the set functionality is carried out for each pushbutton immediately once the operation or release of the pushbutton is detected. The status display of the LED always refers to the object value of the upper pushbutton.

Pushbutton functions

The pushbuttons can be assigned various functions. This is carried out by selecting the corresponding parameter setting in the parameter window of the respective pushbutton.

Switch on/off/toggle:

In the "Switch" configuration, the pushbutton sends the required signal depending on the parameter settings when the pushbutton is pressed or released. The operating time is not evaluated. In the "Toggle" setting, the inverted object value is sent.

A type of "bell function" is also possible as a special function. An "On/Off" signal is sent when the pushbutton is pressed while the inverted signal is sent when the pushbutton is released.

8 bit value:

If the pushbutton is configured for 8 bit values, it sends a set value (0-255) when the pushbutton is pressed. A unique value must be assigned to each pushbutton. The operating time is not evaluated. If required, the pushbutton likewise sends a value when the pushbutton is released: it is only possible to choose between values 0 to 30 in steps.

Display LEDs:

Each of the 4 status LEDs can be switched permanently on or off. If the upper pushbutton is assigned a switch function, the LED can also display the status or the inverted status of the object of the upper pushbutton.

Orientation LED:

The 5th LED (in the centre of the pushbutton) can be used as an orientation light or switched off.

Initialisation signal:

An initialisation signal (on bus voltage recovery) is not possible. It should be noted that the pushbuttons are always in the neutral position (i.e. not pressed) on bus voltage recovery. If a pushbutton is not in the neutral position on bus voltage recovery, the pushbutton sends the corresponding signal. This cannot however be understood yet by other bus devices as all the devices in the system start up (are ready) at different rates.

Note:

The functions and parameters of pushbuttons UP 245, UP 246 and UP 287 are identical.

Maximum number of group addresses: 27
 Maximum number of associations: 27

Parameters

General:

The screenshot shows a software interface for configuring pushbutton parameters. The title bar reads "Outer right push buttons". There are four tabs: "General" (selected), "Outer left push buttons", "Centre left push buttons", and "Centre right push buttons". Under the "General" tab, the "Orientation light (LED)" parameter is displayed with a dropdown menu currently set to "On".

Parameters	Settings
Orientation light (LED)	On Off
The behaviour of the orientation LED can be set in this parameter. The LED can be switched "On" or "Off" here.	

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Communication objects

Phys. Addr.		Program		
no.	Object name	Function	Type	
01.01.001	12 S4 On/Off/Toggle/Value 241901			
0	Switch outer left, upper push button	On / Off	1 Bit	
1	Switch outer left, lower push button	On / Off	1 Bit	
2	Switch centre left, upper push button	On / Off	1 Bit	
3	Switch centre left, lower push button	On / Off	1 Bit	
4	Switch centre right, upper push button	On / Off	1 Bit	
5	Switch centre right, lower push button	On / Off	1 Bit	
6	Switch outer right, upper push button	On / Off	1 Bit	
7	Switch outer right, lower push button	On / Off	1 Bit	

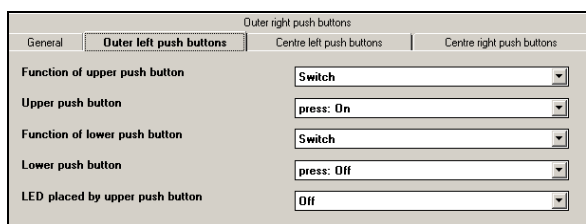
Obj	Object name	Function	Type	Flags
0	Switch outer left, upper pushbutton	On / Off	1-Bit	CWTU
1	Switch outer left, lower pushbutton	On / Off	1-Bit	CWTU
2	Switch centre left, upper pushbutton	On / Off	1-Bit	CWTU
3	Switch centre left, lower pushbutton	On / Off	1-Bit	CWTU
4	Switch centre right, upper pushbutton	On / Off	1-Bit	CWTU
5	Switch centre right, lower pushbutton	On / Off	1-Bit	CWTU
6	Switch outer right, upper pushbutton	On / Off	1-Bit	CWTU
7	Switch outer right, lower pushbutton	On / Off	1-Bit	CWTU

These objects serve as switching objects for the pushbuttons. Depending on the parameter settings (see parameter "Function of upper / lower pushbutton"), either an "On" telegram, an "Off" telegram or an "8 bit value" is sent.

Note:

The functions and parameters of rockers A-D are identical. Each pushbutton can be used for switching or for sending 8 bit values.

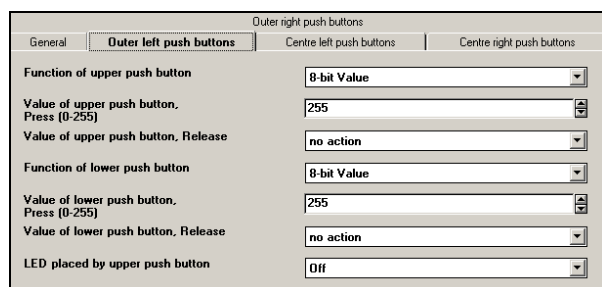
Outer left pushbuttons (Switch / Switch)



Parameters	Settings
Function of upper pushbutton	Switch 8-bit Value
This parameter defines the function of the upper pushbutton. In the "Switch" setting, the pushbutton sends the required signal when the pushbutton is pressed or released. The operating time is not evaluated. If "Toggle" is selected, the inverted object value is sent. The upper and lower pushbuttons always refer to a separate object. A type of bell function is also possible as a special function. An "On/Off" signal is sent when the pushbutton is pressed while the inverted signal is sent when the pushbutton is released.	
Upper pushbutton	press: On press: Off press: Toggle release: On release: Off release: Toggle press: On, release: Off press: Off, release: On press: Toggle, release: Toggle
The signal that is sent when the upper pushbutton is pressed can be set via this parameter.	
Function of lower pushbutton	Switch 8-bit Value
This parameter defines the function of the lower pushbutton. In the "Switch" setting, the pushbutton sends the required signal when the pushbutton is pressed or released. The operating time is not evaluated. If "Toggle" is selected, the inverted object value is sent. The upper and lower pushbuttons always refer to a separate object. A type of bell function is also possible as a special function. An "On/Off" signal is sent when the pushbutton is pressed while the inverted signal is sent when the pushbutton is released.	
Lower pushbutton	press: On press: Off press: Toggle release: On release: Off release: Toggle press: On, release: Off press: Off, release: On press: Toggle, release: Toggle
The signal that is sent when the lower pushbutton is pressed can be set via this parameter.	
LED placed by upper pushbutton	On Off Status, upper pushbutton Status inverted, upper pushbutton
This parameter determines the function of the LED. The settings "Status, upper pushbutton" or "Status inverted, upper pushbutton" are only possible if the function of the upper pushbutton has been set to "Switch".	

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Outer left pushbuttons (8-bit Value / 8-bit Value)

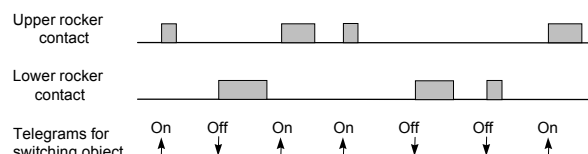


Parameters	Settings
Function of upper pushbutton	Switch 8-bit Value
This parameter defines the function of the upper pushbutton. If the pushbutton is configured for "8-bit Value", it sends a set value (0-255) when the pushbutton is pressed. A unique value must be assigned to each pushbutton. The operating time is not evaluated. If required, the pushbutton sends a set value when the pushbutton is released. This value can be set in steps between 0 and 30.	
Value of upper pushbutton, Press (0-255)	0 ... 255
This parameter determines the 8 bit value that is sent when the upper pushbutton is pressed. A value between "0" and "255" can be selected.	
Value of upper pushbutton, Release	no action 0 1 10 20 30
The value that is sent when the upper pushbutton is released can be set via this parameter.	
Function of the lower pushbutton	Switch 8-bit Value
This parameter defines the function of the upper pushbutton. If the pushbutton is configured for "8-bit Value", it sends a set value (0-255) when the pushbutton is pressed. A unique value must be assigned to each pushbutton. The operating time is not evaluated. If required, the pushbutton sends a set value when the pushbutton is released. This value can be set in steps between 0 and 30.	
Value of upper pushbutton, Press (0-255)	0 ... 255
This parameter determines the 8 bit value that is sent when the upper pushbutton is pressed. A value between "0" and "255" can be selected.	

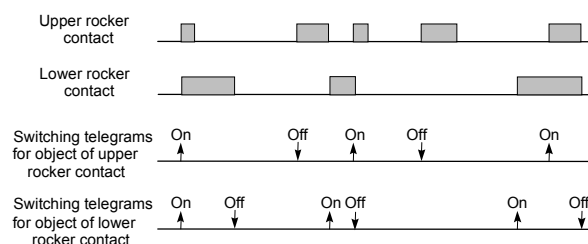
Parameters	Settings
Value of upper pushbutton, Release	no action 0 1 10 20 30
The value that is sent when the upper pushbutton is released can be set via this parameter.	
LED placed by upper pushbutton	On Off
This parameter determines the function of the LED. If the function of the upper pushbutton is set to "Switch", the additional settings of "Status, upper pushbutton" and "Status inverted, upper pushbutton" are possible.	

Timing diagrams: Examples of a pushbutton

1. Configured for switch function: upper "On", lower "Off"



2. Configured for switch function: upper "Toggle", lower "press: On, release: Off"



3. Configured for switch function: upper "8-bit Value", lower "8-bit Value"

