

**20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101****Use of the application program**

Product family: Push button  
Product type: Push button, 1-fold  
Manufacturer: Siemens

Name: Push button IKE 281  
Order no.: 5WG1 281-8AB01

**Functional description**

Using this application program, it is possible to use the 1-fold push button IKE 281 for switching functions (On/Off/Toggle), sending 8-bit values, programming/recalling scenes and the special functions of shutter control and dimming. The LED can be selected for status display (On/Off), as an orientation light or it can have no function.

**Switch (On/Off/Toggle)**

If the push button is configured for switching, it sends the corresponding switching signal when it is pressed. The duration of the push button action is not evaluated. If "Toggle" is selected, the inverse object value is sent. It is also possible to assign a type of "bell function". When the push button is pressed, an On/Off signal is sent. The inverse signal is sent when the push button is released.

**Sending 8-bit value**

If the push button is configured for sending values, it sends the set value (this value must be assigned accordingly in the parameters). The duration of the push button action is not evaluated. When the push button is pressed, the corresponding value is sent immediately. It is therefore possible to set e.g. a dimming actuator to a defined value.

**Scene**

The function of programming/recalling scenes distinguishes between a short and long push button action. The scene is recalled after a short push button action while a long push button action programs the scene. The duration of the switch operation can be selected. The default value for a long push button action is 5 seconds. The sending value (0 or 1) can be set. (Only one scene can therefore be operated).

**Dimming with one button (special function)**

The software enables the dimming function to be carried out with only one push button. A distinction is made between a long and short push button action.

- **Switch (short push button action)**  
After a short push button action, the value that is contained in the switching object (=dimming on/off) is inverted and then sent. An "On" or "Off" telegram is only generated once the push button has been released (=falling pulse edge).
- **Dimming (with stop telegram)**  
After a long push button action (the duration of which can be set), a command is sent to dim brighter or darker depending on the object value and the previous dimming direction. If the dimming actuator was switched off, it is switched on after a long push button action and dimmed brighter. If it was dimmed to 100%, it is dimmed darker after a long push button action. If the dimming actuator is set to a dimming value between 0 and 100%, the last selected dimming direction is inverted. The command "100% dimming" is sent via the dimming object after a long push button action and the "Stop" command is sent when the push button is released (=falling pulse edge). The "Dimming time" can be set. If a "Stop" command is received before the end of the dimming process, the process is interrupted and the achieved brightness value is maintained.
- **Dimming (cyclical)**  
The function of dimming with cyclical sending generates dimming telegrams according to an adjustable transmission frequency (e.g. 1/8 brighter) for the duration of the push button action. When the push button is released, the cyclical sending stops and the dimming actuator remains at the last achieved value.

**Shutter control with one button (special function)**

The program also enables the shutter control function to be carried out via a single push button. A distinction is made between a short and long push button action. After a long push button action (the duration of which can be set), the shutter is raised or lowered. If the push button is pressed briefly during shutter movement (short push button action), this is interpreted as a stop command and the shutter is halted. Otherwise, the louvres are rotated in the corresponding direction after a short push button action. The function is basically identical to the shutter function using 2 push buttons, however the inverse function to the previous long push button action is carried out after each long push button action. A short push button action produces the inverse value which was sent after the last long push button action. The direction of shutter movement when the push button is pressed, is therefore dependent on the

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content of the object for "Shutter Up/Down". It is thus also possible to connect several push buttons in parallel.

**Display LED**

The LED can display "Off", "On" (orientation light) or the status of the corresponding object (a separate status object is available for the LED). A status display can therefore be implemented. A further parameter determines whether the object value "On" or "Off" causes the LED to light up. Using an additional parameter, the LED can also be assigned for push button operation. The LED remains lit until the push button beneath the LED is released.

**Initialisation signal**

It is not possible to carry out an initialisation signal (on bus voltage recovery). You should ensure that the push button is always in the neutral position (i.e. not pressed) on bus voltage recovery. If the push button is not in this position on bus voltage recovery, the application program will then send the corresponding signal. This could however not yet be understood by other bus devices as all the devices in the system are loaded up (ready for operation) at different rates.

Maximum number of group addresses: 28  
Maximum number of associations: 28

**Parameters****General**

General	LED	Push button
Button blockable	No	

Parameters	Settings
Button blockable	No Yes (via blocking object, with value 1) Yes (via blocking object, with value 0)

This parameter specifies whether the push button can be disabled via a separate object (blocking object).  
"No": The function of the push button is enabled.  
"Yes (via blocking object, with value 1)": The push button can be disabled with a "1" telegram via the blocking object that is now available in the object list.  
"Yes (via blocking object, with value 0)": The push button can be disabled with a "0" telegram via the blocking object that is now available in the object list.

**Communication objects****LED**

Phys. Adr.		Applikation		
Nr.	Funktion	Objektname	Typ	
01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101			
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8	Status	LED		1 Bit

**Note:**

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
8	Status	LED	1 Bit	CW

If the function of the LED in the parameter window is selected as "Status (via separate object)", the relevant object [8] is displayed.

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General	LED	Push button
Function of LED	On	

Parameters	Settings
<b>Function of LED</b>	Off On Status (via separate object) Inverted (via separate object) On while pressing push button

The LED can permanently display "Off" or "On" (orientation light) or can be selected for status display via a separate status object. A further parameter determines whether the LED lights up for the object value "On" or "Off". Using an additional parameter, it is possible to select that the LED only remains lit for the duration of the push button action.

**Communication objects****Push button**

Phys. Adr.	Applikation		
Nr.	Funktion	Objektname	Typ
01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val	904101	
0	On	Switch	1 Bit

**Note:**

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	On	Switch	1 Bit	CT

This object serves as a switching object for the push button. Depending on the parameters selected, either an "On" or "Off" telegram is sent. If the function "Toggle" is selected, the inverse value is sent depending on the current switching state (toggling).

**Parameters****Push button**

General	LED	Push button
Function of push button	Switch or special functions	

Parameters	Settings
<b>Function of push button</b>	<b>Switch or special functions</b> Scene (recall / program)

This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.

<b>Push button</b>	On Off Toggle 8-bit Value press: On, release: Off press: Off, release: On Shutter with one button Dimming (one button) with stop telegram Dimming cyclical with one button Step=1/1 Dimming cyclical with one button Step=1/2 Dimming cyclical with one button Step=1/4 Dimming cyclical with one button Step=1/8 Dimming cyclical with one button Step=1/16 Dimming cyclical with one button Step=1/32 Dimming cyclical with one button Step=1/64
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The function of the push button is set via this parameter. Depending on the selected function, the parameter window "Push button" changes and the relevant parameters are displayed with default settings.

The following settings are available for the "Switch" function: "On" or "Off": When the push button is pressed, an "On" or "Off" telegram is sent.

"Toggle": When the push button is pressed, the object value of the switching object is inverted and sent.

"press: On, release: Off": An "On" telegram is sent when the push button is pressed, while an "Off" telegram is sent when the push button is released (bell function).

"press: Off, release: On": An "Off" telegram is sent when the push button is pressed, while an "On" telegram is sent when the push button is released (bell function).

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## Communication objects

## 8-bit Value

Phys. Adr.		Applikation	
Nr.	Funktion	Objektname	Typ
<input checked="" type="checkbox"/> 01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101		
<input type="checkbox"/> 0	8-bit Value	Value	1 Byte

## Note:

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	8-bit Value	Value	1 Byte	CT

The set value telegram is sent via the group addresses in this object when the push button is pressed.

## Parameters

## 8-bit Value

General	LED	Push button
Function of push button	Switch or special functions	
Push button	8-bit Value	
Value Button (0-255)	1	

Parameters	Settings
Function of push button	Switch or special functions Scene (recall / program)
This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.	

Push button	On Off Toggle <b>8-bit Value</b> press: On, release: Off press: Off, release: On Shutter with one button Dimming (one button) with stop telegram Dimming cyclical with one button Step=1/1 Dimming cyclical with one button Step=1/2
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Parameters	Settings
	Dimming cyclical with one button Step=1/4 Dimming cyclical with one button Step=1/8 Dimming cyclical with one button Step=1/16 Dimming cyclical with one button Step=1/32 Dimming cyclical with one button Step=1/64

The function of the push button is set via this parameter. Depending on the selected function, the parameter window "Push button" changes and the relevant parameters are displayed with default settings.

Value Button (0-255)	1
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This parameter defines the sending value which is sent after a push button action. The range covers the values 0 – 255.

## Communication objects

## Shutter operation with one button

Phys. Adr.		Applikation		
Nr.	Funktion	Objektname	Typ	
<input checked="" type="checkbox"/> 01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101			
<input type="checkbox"/> 0	Open / Closed	Louvres	1 Bit	
<input checked="" type="checkbox"/> 4	Up / Down	Shutter	1 Bit	

## Note:

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	Open / Closed	Louvres	1 Bit	CT

This object serves as a switching object for louvre adjustment after a push button action.

4	Up / Down	Shutter	1 Bit	CWT
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This object serves as a switching object for shutter movement after a long push button action. A short push button action during shutter movement stops the shutter.

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## Parameters

## Shutter operation with one button

General	LED	Push button
Function of push button	Switch or special functions	
Push button	Shutter with one button	
Long switch operation min.	0.5 seconds	

Parameters	Settings
Function of push button	Switch or special functions Scene (recall / program)
This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.	
Push button	On Off Toggle 8-bit Value press: On, release: Off press: Off, release: On <b>Shutter with one button</b> Dimming (one button) with stop telegram Dimming cyclical with one button Step=1/1 Dimming cyclical with one button Step=1/2 Dimming cyclical with one button Step=1/4 Dimming cyclical with one button Step=1/8 Dimming cyclical with one button Step=1/16 Dimming cyclical with one button Step=1/32 Dimming cyclical with one button Step=1/64
The function of the push button is set via this parameter. Depending on the selected function, the parameter window "Push button" changes and the relevant parameters are displayed.	
Long switch operation min.	0.3 seconds 0.4 seconds <b>0.5 seconds</b> 0.6 seconds 0.8 seconds 1.0 seconds 1.2 seconds 1.5 seconds 2.0 seconds 2.5 seconds 3.0 seconds 4.0 seconds

Parameters	Settings
	5.0 seconds
	6.0 seconds
	7.0 seconds

This parameter defines the time limit for a short/long push button action. If a contact is pressed for longer than the set time, the software detects a long push button action.

## Communication objects

## Dimming with one button (with stop telegram)

Phys. Addr.	Applikation			
	Nr.	Funktion	Objektname	Typ
01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101			
0	Toggle / Toggle	Dimming Toggle		1 Bit
4	Brighter / Darker	Dimming		4 Bit

## Note:

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	Toggle / Toggle	Dimming Toggle	1 Bit	CWT
After each push button action, the push button sends the inverse switching signal. The push button receives the status signal from the dimmer. The receipt of the status signal enables the push button to be connected in parallel.				
4	Brighter / Darker	Dimming	4 Bit	CWT
A long push button action causes a dim darker or dim brighter command to be sent. The push button sends the inverse switching signal to the last switching signal if it has not been switched off in the meantime.				

## Parameters

## Dimming with one button (with stop telegram)

General	LED	Push button
Function of push button	Switch or special functions	
Push button	Dimming (one button) with stop telegram	
Long switch operation min.	0.5 seconds	

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Parameters	Settings
Function of push button	Switch or special functions Scene (recall / program)
	This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.
Push button	On Off Toggle 8-bit Value press: On, release: Off press: Off, release: On Shutter with one button <b>Dimming (one button) with stop telegram</b> Dimming cyclical with one button Step=1/1 Dimming cyclical with one button Step=1/2 Dimming cyclical with one button Step=1/4 Dimming cyclical with one button Step=1/8 Dimming cyclical with one button Step=1/16 Dimming cyclical with one button Step=1/32 Dimming cyclical with one button Step=1/64
	The function of the push button is set via this parameter. Depending on the selected function, the parameter window "Push button" changes and the relevant parameters are displayed with default settings.
Long switch operation min.	0.3 seconds 0.4 seconds <b>0.5 seconds</b> 0.6 seconds 0.8 seconds 1.0 seconds 1.2 seconds 1.5 seconds 2.0 seconds 2.5 seconds 3.0 seconds 4.0 seconds 5.0 seconds 6.0 seconds 7.0 seconds
	This parameter defines the time limit for a short/long push button action. If a contact is pressed for longer than the set time, the software detects a long push button action.

## Communication objects

## Dimming with one button (cyclical sending)

Phys. Addr.	Applikation			Typ
	Nr.	Funktion	Objektname	
01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101			
0	Toggle / Toggle	Dimming Toggle		1 Bit
4	Brighter / Darker	Dimming		4 Bit

## Note:

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	Toggle / Toggle	Dimming Toggle	1 Bit	CWT
After each push button action, the push button sends the inverse switching signal. The push button receives the status signal from the dimmer. The receipt of the status signal enables the push button to be connected in parallel.				
4	Brighter / Darker	Dimming	4 Bit	CWT
A long push button action causes a dim darker or dim brighter command to be sent. The push button sends the inverse switching signal to the last switching signal if it has not been switched off in the meantime.				

## Parameters

## Dimming with one button (cyclical sending)

General	LED	Push button
Function of push button	Switch or special functions	
Push button	Dimming cyclical with one button Step=1/8	
Long switch operation min.	0.5 seconds	
Interval for cyclical sending	0.5 seconds	

Parameters	Settings
Function of push button	Switch or special functions Scene (recall / program)
	This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.
Push button	On Off Toggle 8-bit Value press: On, release: Off press: Off, release: On

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Parameters	Settings
<b>Push button</b>	Shutter with one button Dimming (one button) with stop telegram <b>Dimming cyclical with one button Step=1/1</b> <b>Dimming cyclical with one button Step=1/2</b> <b>Dimming cyclical with one button Step=1/4</b> <b>Dimming cyclical with one button Step=1/8</b> <b>Dimming cyclical with one button Step=1/16</b> <b>Dimming cyclical with one button Step=1/32</b> <b>Dimming cyclical with one button Step=1/64</b>
	The function of the push button is set via this parameter. Depending on the selected function, the parameter window "Push button" changes and the relevant parameters are displayed with default settings.
<b>Long switch operation min.</b>	0.3 seconds 0.4 seconds <b>0.5 seconds</b> 0.6 seconds 0.8 seconds 1.0 seconds 1.2 seconds 1.5 seconds 2.0 seconds 2.5 seconds 3.0 seconds 4.0 seconds 5.0 seconds 6.0 seconds 7.0 seconds
	This parameter defines the time limit for a short/long push button action. If a contact is pressed for longer than the set time, the software detects a long push button action.
<b>Interval for cyclical sending</b>	0.3 seconds 0.4 seconds <b>0.5 seconds</b> 0.6 seconds 0.8 seconds 1.0 seconds 1.2 seconds 1.5 seconds 2.0 seconds 2.5 seconds 3.0 seconds 4.0 seconds 5.0 seconds 6.0 seconds 7.0 seconds
	The interval for cyclical sending after a long push button action is set here. The bus load should be taken into consideration when setting the cyclical time period.

## Communication objects

## Scene

Phys. Adr.	Applikation			Typ
	Nr.	Funktion	Objektname	
01.01.004	20 S1 Tableau, On-Off-Tog/Dim/Shu/Val 904101			
0	Recall	Scene		1 Bit
1	Save	Scene		1 Bit

## Note:

The view of the objects can be arranged individually i.e. this view can vary.

Obj	Function	Object name	Type	Flags
0	Recall	Scene	1 Bit	CT
The scene is recalled after a short push button action and programmed after a long push button action (the duration of which can be set).				
1	Save	Scene	1 Bit	CT
This object serves as a status object and is only intended for the receipt of switching signals. The status object should be linked with the switching status of the dimming actuator.				

## Parameters

## Scene

General	LED	Push button
Function of push button	Scene (recall / program)	
Button transmits	0	
Start to save scene at	0.5 seconds	

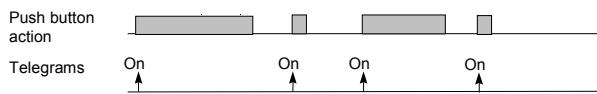
Parameters	Settings
<b>Function of push button</b>	Switch or special functions <b>Scene (recall / program)</b>
	This parameter defines the basic function of the push button. If the setting "Scene (recall / program)" is selected, the parameter window changes and the parameters for the scene function are displayed.
<b>Button transmits</b>	0 1
	This parameter sets the sending signal when the push button is pressed.

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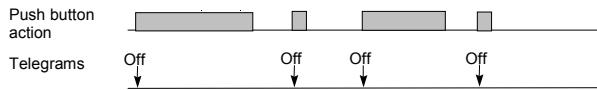
Parameters	Settings
Start to save scene at	0.3 seconds 0.4 seconds <b>0.5 seconds</b> 0.6 seconds 0.8 seconds 1.0 seconds 1.2 seconds 1.5 seconds 2.0 seconds 2.5 seconds 3.0 seconds 4.0 seconds 5.0 seconds 6.0 seconds 7.0 seconds

## Time diagrams

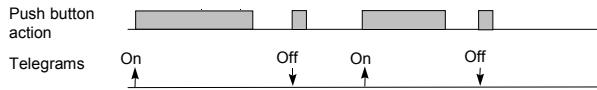
#### Configured for switch function: On



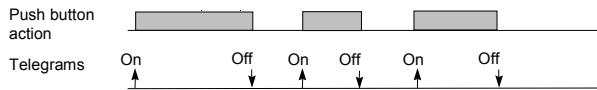
**Configured for switch function: Off**



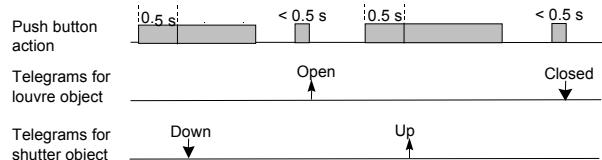
## Configured for switch function: Toggle



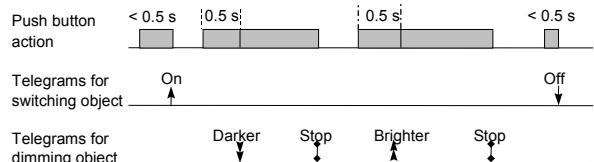
Configured for switch function:  
press: On, release: Off (bell function)



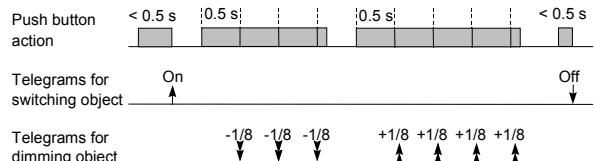
## Configured for shutter



## Configured for dimming with stop telegram



## Configured for dimming with cyclical sending



**Configured for sending 8-bit value**

