11 A2 Binary 520901

Devices Employing the Program

Product family: Output
Product type: Binary output 2-fold
Manufacturer: Siemens

Name: Load Switch GE 510
Order-no.: 5WG1 510-4AB01

Name: Binary output N 562
Order-no.: 5WG1 562-1AB01

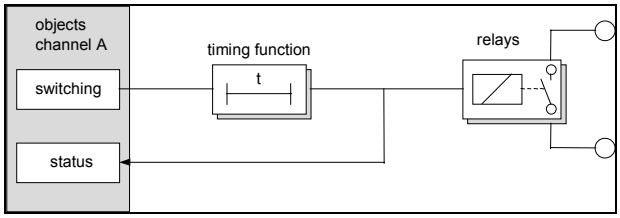
Name: Binary output N 562 *pl*
Order-no.: 5WG1 562-1PB01

Name: Binary output GE 563
Order-no.: 5WG1 563-4AB01

Application Description

This application program allows you to use both channels of a binary output 2-fold to pure switching, timed switching (staircase lighting), delayed and logic switching tasks.
Additionally, the switching status of the output can be read via the bus and parameters are provided to specifying the response to bus voltage failure and recovery, and the relay's contact type.

Block diagram of channel A



Communication Objects

Phys.Addr.	Program		
no.	Function	Object name	Type
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0	Channel A	Switch	1 Bit
1	Channel A	Status	1 Bit
2	Channel B	Switch	1 Bit
3	Channel B	Status	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	Flag
0	Channel A	Switch	1-bit	CWU
This object's group addresses are used to receive switching telegrams that are forwarded to the relay channel A via the timer.				
1	Channel A	Status	1-bit	CRU
This object holds the actual switching status of the relay channel. The status is changed according to the switching telegrams received at object [0] and the delay specified to channel A but is not affected by the parameter "Relay mode: normally closed/normally open". On changing the object status no telegram is sent. The switching status can be read with the ETS or a visualization unit.				
2	Channel B	Switch	1-bit	CWU
This object's group addresses are used to receive switching telegrams that are forwarded to the relay channel B via the timer.				
3	Channel B	Status	1-bit	CRU
This object holds the actual switching status of the relay channel. The status is changed according to the switching telegrams received at object [2] and the delay specified to channel B but is not affected by the parameter "Relay mode: normally closed/normally open". On changing the object status no telegram is sent. The switching status can be read with the ETS or a visualization unit.				

Maximum number of group addresses: 11
Maximum number of assignments: 11

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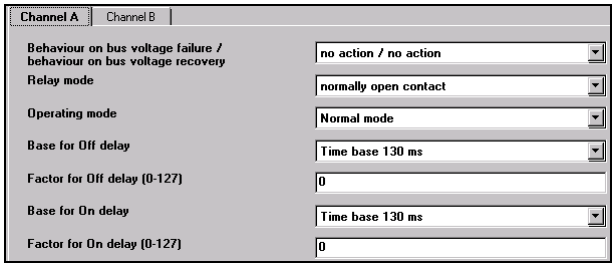
Parameters

Note:

The sequence of the parameters in the de-scription is the same as in the ETS screen shots. To have a more precise description, the terms used are partly different to the ETS screen shots.

Channel A:



The parameters of channel B can be set accordingly.

Parameters	Settings
Behaviour on bus voltage failure / behaviour on bus voltage recovery	**no action / no action** no action / relay picks up no action / relay drops off relay picks up / picks up relay picks up / drops off relay drops off / picks up relay drops off / drops off
This parameter rules the relay contact's response to bus voltage failure and recovery: "no action": On bus voltage failure and recovery the relay contact maintains its current switching status. "relay picks up" (switch on): On bus voltage failure and recovery the relay contact picks up in the setting "Relay mode: normally open contact" and drops out when using "Relay mode: normally closed contact". "relay drops off" (switch off): On bus voltage failure and recovery the relay contact drops out in the setting "Relay mode: normally open contact" and picks up when using "Relay mode: normally closed contact".	
Relay mode	**normally open contact** normally closed contact
This parameter defines the characteristic of the output. "normally open contact": "off" telegram = relay drops out, "on" telegram = relay picks up. "normally closed contact": "off" telegram = relay picks up, "on" telegram = relay drops out.	
Operating mode	**Normal mode** Time switch
This parameter rules the switch off delay mode: "Normal mode": On receiving an "Off" telegram via the switching object, the specified switch off delay is started. Each subsequent "Off" telegram received before the period has passed re-starts the delay anew. When the delay period has passed without receiving a further "Off" telegram, a "0" telegram is sent to the output. An "On" telegram cancels the switch off delay. "Time switch": "On" telegrams received via the switching object are forwarded to the output immediately. Simultaneously the specified delay is started ignoring any switch on delays. Each subsequent "On" telegram received before the period has passed re-starts the delay anew. When the delay period has passed without receiving a further "On" telegram, a "0" telegram is sent to the output. An "Off" telegram cancels the switch off delay and is forwarded to the output immediately.	
Base for Off delay	**Time base 130 ms** Time base 260 ms Time base 520 ms Time base 1 sec Time base 2,1 sec Time base 4,2 sec Time base 8,4 sec Time base 17 sec Time base 34 sec Time base 1,1 min Time base 2,2 min Time base 4,5 min Time base 9 min Time base 18 min Time base 35 min Time base 1,2 hr
Factor for Off delay (0-127)	**0**
These parameters rules the delay to switch "Off". The delay period is generated by multiplying the specified base with the selected factor. Factor = "0": No switch off delay, i.e. logical "0"s are forwarded immediately. Note: As the specified base equals the maximum timing error, the smallest possible base should be used to establish the desired delay.	
Switch on delay base	**Time base 130 ms** Time base 260 ms Time base 520 ms Time base 1 sec Time base 2,1 sec Time base 4,2 sec Time base 8,4 sec Time base 17 sec Time base 34 sec Time base 1,1 min Time base 2,2 min Time base 4,5 min Time base 9 min Time base 18 min Time base 35 min Time base 1,2 hr
Factor for On delay (0-127)	**0**
These parameters rules the delay to switch "On". The delay period is generated by multiplying the specified base with the selected factor. Factor = "0": No switch on delay, i.e. logical "1"s are forwarded immediately. Note: As the specified base equals the maximum timing error, the smallest possible base should be used to establish the desired delay.	

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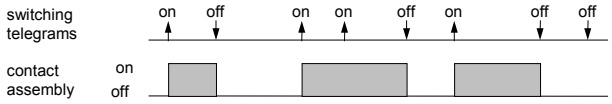
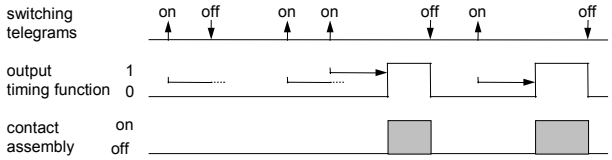
Timing Diagrams: Channel Examples

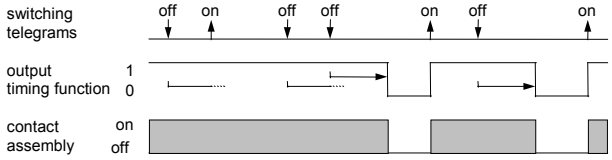
1. Non delayed switching



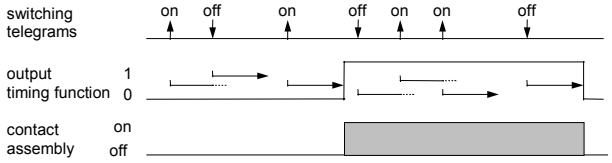
2. Switching with switch on delay



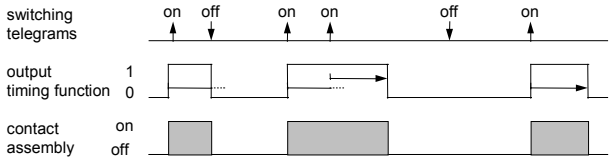
3. Switching with switch off delay



4. Switching with on and off delay



5. Timed switching



Note

When set to "time switch" mode the switch on delay is ignored.

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Notes

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