11 A2 Binary 520401

Devices Employing the Program

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

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

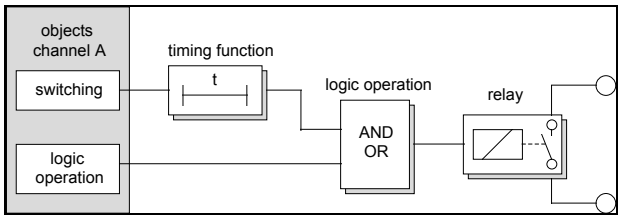
Name: Binary output GE 562 *pl*
Order-no.: 5WG1 562-1PB01

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

Application Description

This application program allows you to use both outputs of a binary output 2-fold for pure switching, timed switching (staircase lighting), delayed and logic switching tasks.
Additionally, parameters are provided to specify the response to bus voltage failure, and the relay's contact type.

Block diagram of channel A



Communication Objects

Phys.Addr.	Program		
no.	Function	Object name	Type
01.01.022	11 A2 Binary	520401	
0	Channel A	Switch	1 Bit
1	Channel B	Switch	1 Bit
2	Channel A	Logic operation	1 Bit
3	Channel B	Logic operation	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	CWTU
This object's group addresses are used to receive switching telegrams that are forwarded to the relay channel A via the timer. When using a logic combination the timer's result is the first input of the logic combination at channel A.				
1	Channel B	Switch	1-bit	CWTU
This object's group addresses are used to receive switching telegrams that are forwarded to the relay channel B via the timer. When using a logic combination the timer's result is the first input of the logic combination at channel B.				
2	Channel A	Logic operation	1-bit	CRWTU
This object's group addresses are used to receive the switching telegrams to the second input of the logic combination at channel A. When the parameter "Non delayed logic operation" is set to "no logical operation" this object is not used.				
3	Channel B	Logic operation	1-bit	CRWTU
This object's group addresses are used to receive the switching telegrams to the second input of the logic combination at channel B. When the parameter "Non delayed logic operation" is set to "no logical operation" this object is not used.				

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

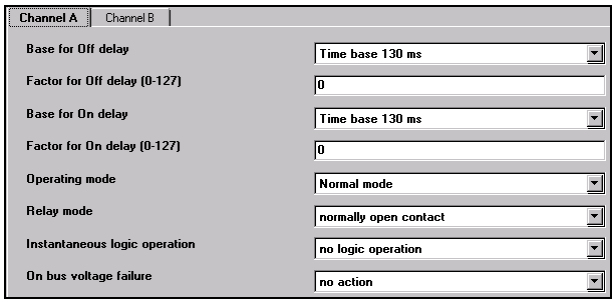
11 A2 Binary 520401

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 channels B can be set accordingly.

Parameters	Settings
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 h
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 for-warded 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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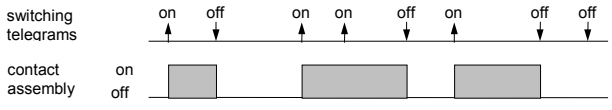
Base for On delay	**Time base 130 ms** Time base 260 ms Time base 520 ms Time base 1 sec Time base 2,1 sec Time base 4,2 sec Time base 8,4 sec Time base 17 sec Time base 34 sec Time base 1,1 min Time base 2,2 min Time base 4,5 min Time base 9 min Time base 18 min Time base 35 min Time base 1,2 h
Factor 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 for-warded immediately. Note: As the specified base equals the maximum timing error, the smallest possible base should be used to establish the desired delay.	
Operating mode	**Normal mode** Time switch
This parameter rules the switch off delay mode: "Normal mode": On receiving an "off" telegram via the switch-ing 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" tele-gram is sent to the output. An "on" telegram cancels the switch off delay. "Time switch mode": "On" telegrams received via the switch-ing object are forwarded to the output immediately. Simulta-neously 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 immedi-ately.	
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.	

11 A2 Binary 520401

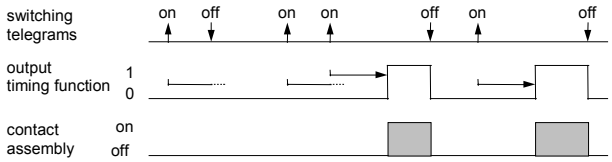
Parameters	Settings
Non delayed logic operation	**no logic operation** OR function AND function
This parameter defines the logic combination between the switching object and the logic object. The first input of the logic combination receives the telegrams from the switching object according to the settings to "on" and "off" delays. The second input uses the state of the logic object. The logic object is not subject to the delay settings and therefor is forwarded immediately. "no logic operation" (combination): Telegrams from the switching object are forwarded to the relays directly subject to the selected "on" and "off" delays, ignoring the logic object. "OR function" (combination): Switching and logic objects are combined with a logical OR. "AND function" (combination): Switching and logic objects are combined with a logical AND.	
On bus voltage failure	**no action** switch on switch 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 state. "switch on" (switch on): On bus voltage failure and recovery the relay contact picks up in the setting "Relay mode: normally open" and drops out when using "Relay mode: normally closed". "switch off" (switch off): On bus voltage failure and recovery the relay contact drops out in the setting "Relay mode: normally open" and picks up when using "Relay mode: normally closed".	

Timing Diagrams: Channel Examples

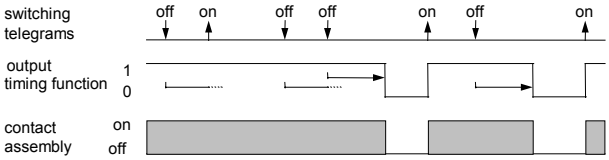
1. Non delayed switching, no logic combination



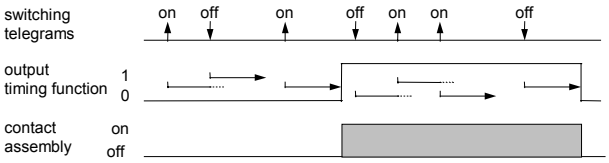
2. Switching with switch on delay, no logic combination



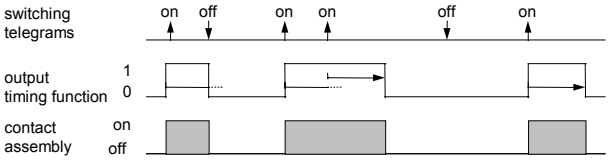
3. Switching with switch off delay, no logic combination



4. Switching with on and off delay, no logic combination



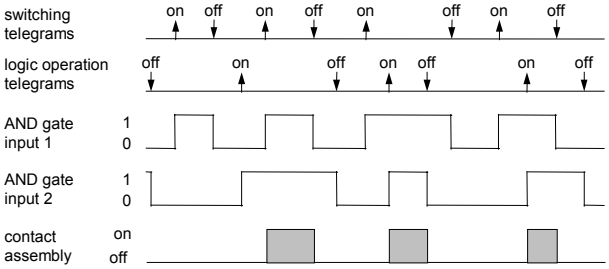
5. Timed switching, no logic combination



Note

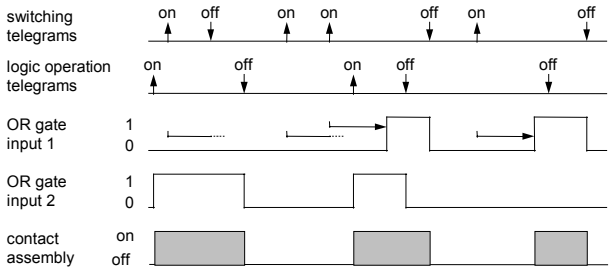
When set to "time switch" mode the switch on delay is ignored.

6. Non delayed switching with AND gate

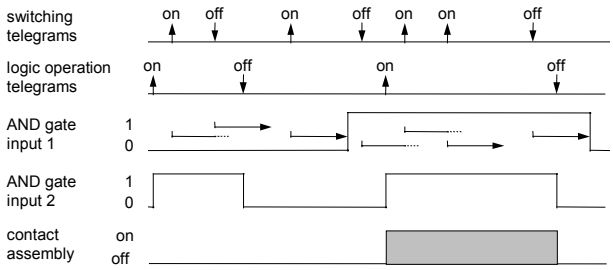


11 A2 Binary 520401

7. Switching with switch on delay and OR gate



8. Switching with on and off delay and AND gate



9. Timed switching with OR gate