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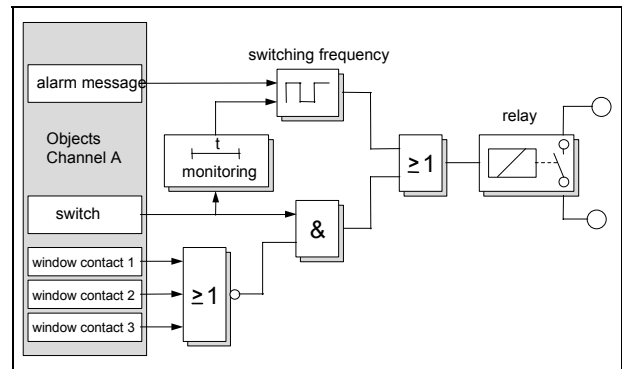
Devices Employing the Program

- Product family: Output
 Product type: Binary Output 1-fold / Binary Output 2-fold
 Manufacturer: Siemens
- Name: Binary Output GE 562
 Order-no.: 5WG1 562-4AB01
- 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 1-fold or 2-fold to control electrothermal actuators for heating elements and electric heaters. Additional communication objects are provided to receive information from up to three window contacts per channel to switch off the heating while windows are open. On receiving a frost alarm telegram from a temperature controller via the alarm object, the heating is set to 50% by cyclically switching the relay contact on and off to protect the heating from freezing up because of an open window. The cyclic send frequency can be set in the parameter list. Accordingly, the heating is set to 50% when no cyclically sent regulating telegram is received from the temperature controller during the monitoring period which can be set in the parameter list. Furthermore, a parameter is provided to specify the response of the relay contacts to bus voltage failure.

Block diagram of binary channel A



Communication Objects

Phys. Addr.		Program		
no.	Object name	Function	Type	
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0	Switch, channel A	On / Off	1 Bit	
1	Frost alarm, channel A	On / Off	1 Bit	
2	Window contact 1, channel A	On / Off	1 Bit	
3	Window contact 2, channel A	On / Off	1 Bit	
4	Window contact 3, channel A	On / Off	1 Bit	
5	Switch, channel B	On / Off	1 Bit	
6	Frost alarm, channel B	On / Off	1 Bit	
7	Window contact 1, channel B	On / Off	1 Bit	
8	Window contact 2, channel B	On / Off	1 Bit	
9	Window contact 3, channel B	On / Off	1 Bit	

Note

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

Obj	Object name	Function	Type	Flag
0	Switch, channel A	On/Off	1 Bit	CWTU
Via this object's group address, channel A's regulating telegrams (heating on/off) are received from the temperature controller. If telegrams are not received cyclically, the heating is set to 50%. Monitoring period and cyclic send frequency can be set in the parameter list.				
1	Frost alarm, channel A	On/Off	1 Bit	CWTU
Via this object's group address, channel A's frost alarm telegrams are received from the temperature controller. On a logic "1" (frost alarm) the heating is set to 50% by the actuator.				

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Obj	Object name	Function	Type	Flag
2	Window contact 1, channel A	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 1 of channel A are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				
3	Window contact 2, channel A	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 2 of channel A are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				
4	Window contact 3, channel A	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 3 of channel A are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				
5	Switch, channel B	On/Off	1 Bit	CWTU
Via this object's group address, channel B's regulating telegrams (heating on/off) are received from the temperature controller. If telegrams are not received cyclically, the heating is set to 50%. Monitoring period and cyclic send frequency can be set in the parameter list.				
6	Frost alarm, channel B	On/Off	1 Bit	CWTU
Via this object's group address, channel B's frost alarm telegrams are received from the temperature controller. On a logic "1" (frost alarm) the heating is set to 50% by the actuator.				
7	Window contact 1, channel B	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 1 of channel B are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				
8	Window contact 2, channel B	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 2 of channel B are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				
9	Window contact 3, channel B	On/Off	1 Bit	CWTU
Via this object's group address, telegrams from window contact 3 of channel B are received. On a logic "1" (window open) the relay sends an "off" telegram. If no window contacts are available, this object is not assigned a group address.				

Maximum number of group addresses: 10
 Maximum number of assignments: 10

Parameters

General

Parameters	Settings
Device type	Two channels (GE 510/563, N 562/562 PL) One channel (GE 562)
This parameter defines which device type the program will be loaded into. Caution: This parameter is already set to the correct value when a device is inserted using the ETS software and can only be read in partial access mode. If the default push button is pressed to reset the parameter to the default values, the device type must be readjusted in full access mode.	

Channel A and B

All parameters affect both channels A and B.

Parameters	Settings
Characteristic of actuator	de-energized closed de-energized open
This parameter defines the actuator's characteristic, i.e. the type of relay contact. Electrothermal actuators are available with different characteristics. When set to "de-energized closed", the heating valve is closed for a de-energized actuator, when set to "de-energized open" the valve of a de-energized actuator is open. "de-energized closed": On receiving a regulating telegram for "heating on" the relay contact picks up, otherwise it drops out. "de-energized open": On receiving a regulating telegram for "heating on" the relay contact drops out, otherwise it picks up.	

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Parameters	Settings
Behaviour on bus voltage failure	valve opens valve closes no action
<p>This parameter rules the relay contact's response to bus voltage failure:</p> <p>"valve opens": On bus voltage failure, the relay contact picks up in the setting "Electrothermal actuator characteristic: de-energized closed" and drops out when using "de-energized open".</p> <p>"valve closes": On bus voltage failure, the relay contact drops out in the setting "Electrothermal actuator characteristic: de-energized open" and picks up when using "de-energized closed".</p> <p>"no action": On bus voltage failure, the relay contact maintains its current switching state.</p>	
Base for switch repetition time on alarm or sensor failure	time base 33 sec time base 130 ms time base 2.1 sec
Factor for switch repetition time on alarm or sensor failure (5-255)	9
<p>These parameters define the frequency for periodically sending regulating telegrams to set the heating to 50% if no telegrams are received from the temperature controller during one monitoring period or in case a frost alarm telegram was received. The frequency is generated by multiplying the base and factor which gives a default period of 5 minutes for switching the heating on and off in the event of an alarm.</p> <p>Note: Consider bus traffic when specifying a cyclic send frequency.</p>	
Sensor: base for monitoring time	base time 33 sec base time 130 ms base time 2.1 sec
Sensor: factor for monitoring time (5-255)	20
<p>These parameters define the monitoring period for receiving at least one telegram from the temperature controller at the switching object. When no telegram is received within this period, the heating is set to 50% using the frequency specified above for periodically sending regulating telegrams. The selected monitoring period should be longer than the cyclic send frequency of the temperature controller to avoid completing a monitoring period without receiving a telegram due to delays caused by high levels of bus traffic.</p>	

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Notes: