

Operating Instructions

For

Dual Relay

Alarm Control Module

Model XR 500

XR 500 Alarm CONTROL RELAY MODULE

1. Note

Please read and take note of these operating instructions before unpacking and commissioning. The instruments may only be used, maintained and installed by qualified personnel familiar with the operating instructions and the applicable health and safety requirements.

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3. Specific Applications

The Alarm Control Module has been designed for use in level alarm applications.

The module consists of a transformer, control circuit and output relays

The SSR is a switch type control module with two SPST relay contacts output. Inputs should be dry (potential free) contacts, for example reed switch contacts from a float type level detector. The module generates 24VDC to detect input switch closure; the current is limited to 20 mA on the inputs, in order to protect the level switches. In addition, the module has built in time delay on the inputs, which avoids false triggering due to switch bounce or nuisance tripping from process vibration, waves or bubbles.

4. Operating Principles

The module is designed to provide detection of two levels in a process tank and controls indicate a high- and low-level alarm.

The multifunctional relays of the XR 500 series are contact protection relays to connect to double contacts. The increase in switching safety and the switching capacity of the reed switch has increased when used with the XR 500.

Multifunctional relays are absolutely recommended for use with reed switches immersed in oil.

5. Instrument Instructions

The instruments are thoroughly inspected by the factory prior to shipment and sent in perfect condition. Should any damage to the device be visible, we recommend a thorough inspection of the delivery packing. In case of damage please inform your parcel service/forwarding agent immediately, since they are responsible for damages incurred during transit.

Scope of delivery:

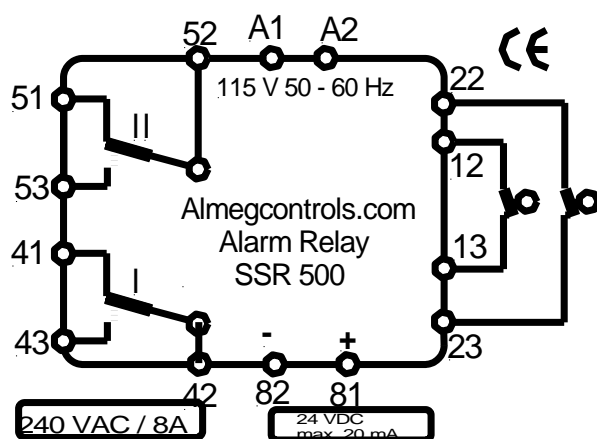
- Level Control Alarm Module
- Operation Manual

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6. Mechanical Installation

The relay module enclosure is rated IP 20 (approx. equivalent to NEMA 1), which is intended for use in dry, dust free environment. If the relay module will be in harsh, wet or dusty environments, the user should mount in an appropriate enclosure to protect the device. For example - NEMA 4X electrical enclosure.

The relay module can be mounted on to a standard DIN mounting rail, according to DIN 46277, EN50022. The device snaps on to the DIN rail and can be removed from the rail by releasing the spring-loaded clip, located on the bottom of the device.



7. Technical Specifications

Preliminary Technical Data Sheet

Instrument Type	Electromechanical Contact Protection Relay
Model	SSR 500
Housing Size	75mm x 50mm x 100mm
Housing Material	Polyamid 6.6
Supply Voltage	115 VAC +/- 10% 50 – 60 Hz
Power Consumption	5 VA (typical)
Control Voltage	24 VDC
Control Current	20 Ma
Input Impedance	3300 Ohm, 100 nF +/- 20%
Maximum Contact "ON" Impedance	4700 Ohm, 47 nF at inputs
Delay Period (initiating)	10 ms
Delay Period (dropping)	20ms
Output	2 SPDT relay contact
Permissible Load	250 VAC / 8A resistive / 1840 VA
Temperature range	-20 deg. C to 60 deg. C
Type of protection	IP 20

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8. Electrical Connection

ATTENTION: Ensure that the voltage levels of your supply system agree with the voltage levels given on the Type Label of the device.

- Make sure that the electric supply lines are not active during connection to this device.
- Improper wiring can lead to damage of this device as well as injury to the user.
- Make sure that installation; wiring and circuit protection are in **accordance with all local electrical codes.**
- Make sure the supply circuit **provides adequate fuse or circuit breaker protection** that is in accordance with the circuits current rating.
- **Make sure that a alarm contacts ratings do not exceed the SSR 500 Level Control's relay rating.**

Electrical connections to the relay module are made by - connecting the wires to the numbered screw terminals. Wiring is per attached drawings and specifications.

Wiring Table

Terminal #	Description	Function
A1	Mains Connection	Connect to 115 VAC Supply
A2	Mains Connection	Connect to 115 VAC Supply
22, 23	High Alarm	Connect top switch direct to 22 and 23 (Can be 1 or both high and low)
12, 13	Low Alarm	Connect bottom switch direct to 12 and 13
52	Common High	Output high alarm common
51	N/C High	Output N/C high alarm
53	N/O High	Output N/O high alarm
42	Common Low	Connect low alarm common
41	N/C Low	Output N/C low
43	N/O Low	Output N/O low
82 & 81	24 VDC Excitation	Sensor Supply Maximum 20 mA – not used in standard mode

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Wiring Diagram

9. Start-Up

Ensure that all wiring to the Level Control Module is correctly installed and the level switches are installed and functioning correctly. The Relay Module is now ready for operation and the supply power to the level control circuit can be applied. In the alarm mode of operation, the relay should operate in accordance with the description in section 4. Operating Principals.

10. Troubleshooting

The relay does not operate:

- Check the mains voltage is applied to the L and N terminals on the module.
- Check that there is 24 VDC across terminals 82 and 81. If mains voltage is applied and no 24 Volts is measured across 82 and 81 the module may be defective.
- Check level switch operation and cabling from the tank location to the module.
Temporarily remove the switch inputs from the module and simulate level switch closure using jumper wires across input terminals.
- When simulating level switch closures, the relay does not activate, the relay may be faulty.
- If the relay activates but does not close the relays, the output wiring circuit may be faulty.

11. Maintenance

The Level Relay Module requires absolutely no maintenance. Depending on the type of level sensors used and the process conditions, maintenance to the sensors may be required. Verify and follow maintenance procedures according to the sensor maintenance manual. Verify and follow maintenance procedures according to the pump or solenoid manufacturer's maintenance manual.

There are no user serviceable parts inside the SSR 1000 module. If repair is required, please contact your local distributor to return for repair.

Your Distributor Is