

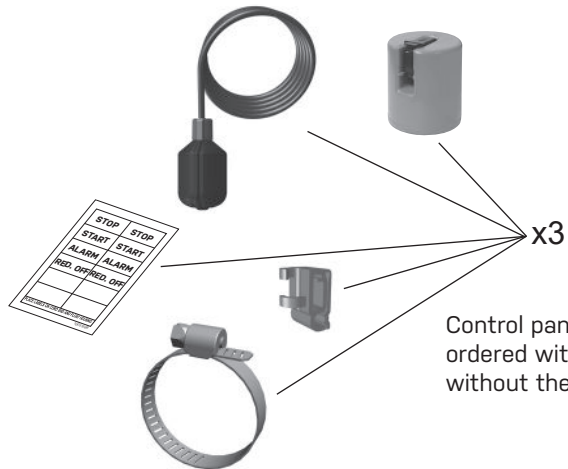


Single Phase Simplex

Installation and Operation Manual



Parts Included



Control panel may be ordered with or without these items.

⚠ WARNING!
ELECTRICAL SHOCK HAZARD
 Disconnect all power sources before servicing. Failure to do so could result in serious injury or death.

This control panel must be installed and serviced by a licensed electrician in accordance with the National Electric Code NFPA-70, state and local electrical codes. UL Type 4X enclosures are for indoor or outdoor use.

Warranty void if panel is modified.

? For information regarding operation, available options, or servicing questions, please call SJE Rhombus Technical Support.

SJE Rhombus offers a five-year limited warranty. For complete terms and conditions, please visit www.sjrhombus.com.
 Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.

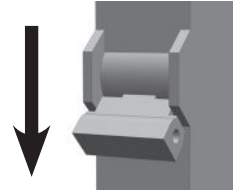
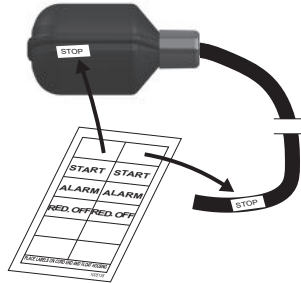
Installing the Float Switches

The Model 112 Single Phase Simplex control panel operates with 3 float switches to activate pump STOP, START, and high-level ALARM functions.

1 **⚠ WARNING!**

Ensure all power is turned OFF before installing floats in tank. Failure to do so could result in serious or fatal shock.

2 Label each float and cord end with the provided pairs of STOP, START, and ALARM stickers.



3 **⚠ CAUTION!**

If the floats are not properly mounted and connected in the correct order, the pumps will not function properly.

Mounting the Control Panel

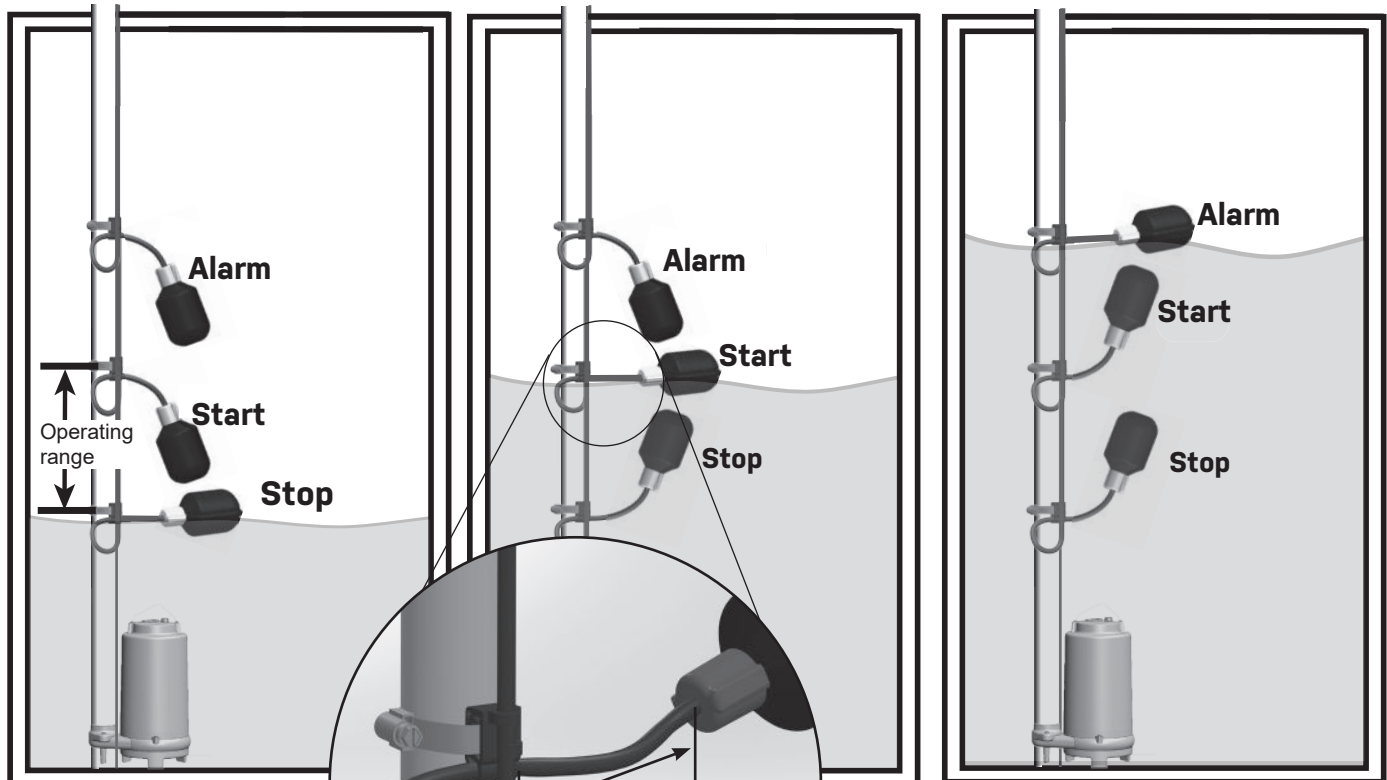
NOTE

If the distance to the control panel exceeds the length of the float switch cords or the pump power cord, splicing in a liquid-tight junction box will be required. For outdoor or wet installation, we recommend an SJE Rhombus UL Type 4X junction box.



Floats require free range of motion.
They must not touch each other or any equipment in the pump chamber.

Pipe Clamp Mounting - Float Operation



Tighten the clamp.

Hose clamp is 18-8 stainless steel.

Make sure hose clamp band does not interfere with float operation.

Do not install cord under hose clamp.

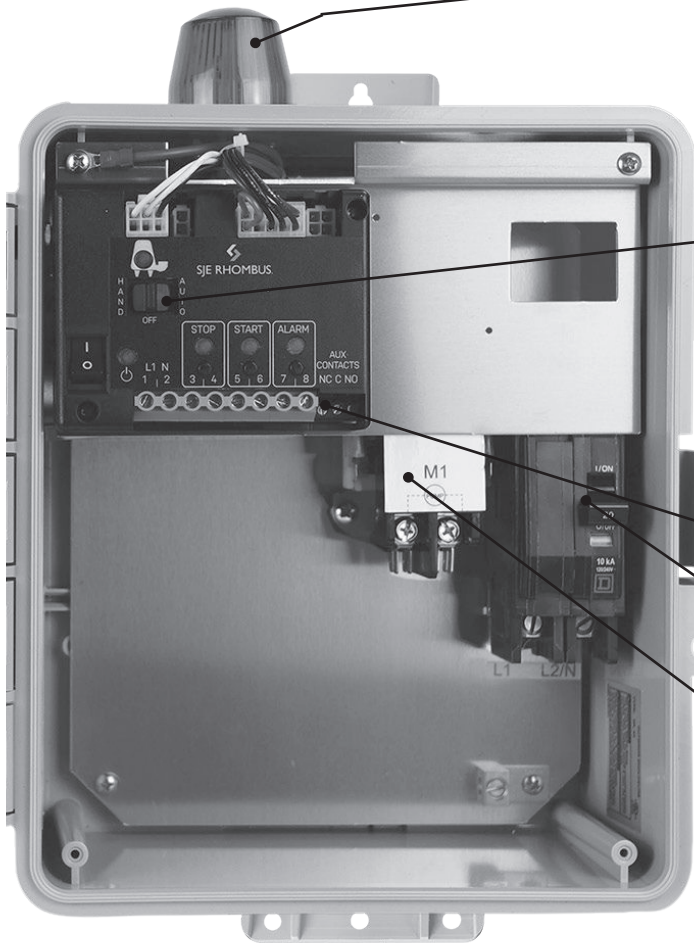
Wiring the Control Panel

- Determine conduit entrance locations on control panel as shown. Check local codes and schematic inside the panel for the number of power circuits required.

⚠ CAUTION!

Be sure the pump power voltage and phase are the same as the pump motor being installed.

- Connect the following wires to the proper terminal positions:
 - incoming power
 - pump
 - float switches
- See schematic inside control panel for details.



Typical Layout (May vary with options ordered).

⚠ CAUTION! You must use conduit sealant to prevent moisture or gases from entering the panel.

Type 4X conduit must be used to maintain a Type 4X rating of the control panel.

- Verify correct operation of control panel after installation is complete.

Operation

SJE-Rhombus® Model 112 Single Phase Simplex control panels are designed to operate in a three float system as standard. When all floats are in the open or OFF position, the panel is inactive. As the liquid level changes and closes the stop float, the panel remains inactive until the start float closes. At this point the pump will start, providing the HOA switch is in the AUTOMATIC mode and the power is ON. The pump will remain ON until both the stop and start floats open (return to the OFF position). If the liquid level travels beyond both the stop and start floats and reaches the alarm float, the alarm will be activated. The alarm horn can be silenced by pressing and releasing the test/silence switch.


Alarm System (Indicator Light and Horn)


When an alarm condition occurs, the red light and horn will be activated.


If the **TEST/NORMAL/SILENCE** switch is moved to the SILENCE position and released, the horn will be silenced. When the alarm condition is cleared, the alarm system is reset.

Hand-Off-Auto (HOA) Switch

The HOA 3-way switch controls pump functions.

 In HAND mode, the pump will turn ON.

 OFF turns the pump OFF.

 In AUTO mode, commands from the float switches turn the pump ON and OFF.

Auxiliary Contact

Form C - Can be wired normally open or normally closed.

Circuit Breaker (optional)

The circuit breaker provides pump disconnect and branch circuit protection.

Motor Contactors

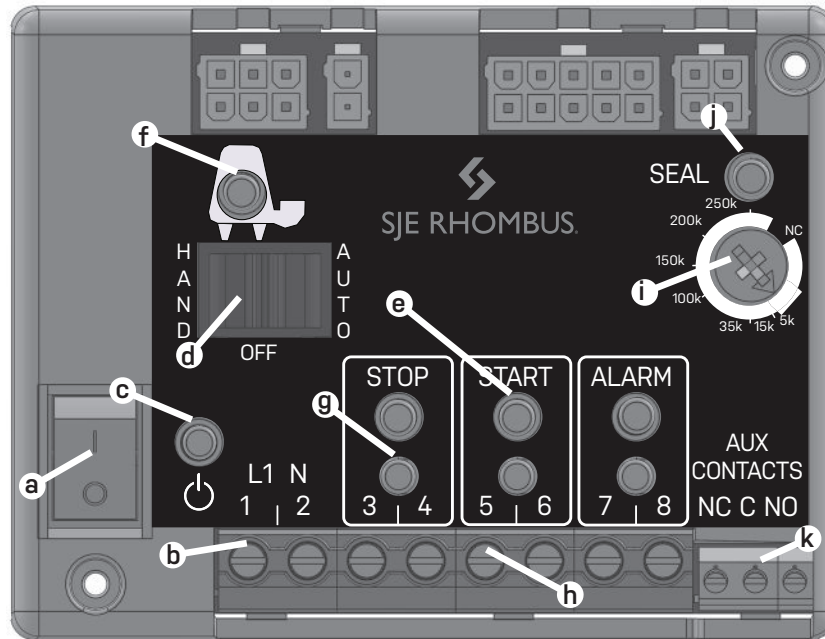
The motor contactor controls the pump by switching electrical lines.



Technical support, service questions:

+1-800-746-6287
techsupport@sjeinc.com

Monday - Friday
7:00 AM to 6:00 PM Central Time



Model shown contains optional Seal Fail circuitry.

COMPONENTS

- a. ON/OFF Switch - Control/Alarm Power
- b. 120V Incoming Power Terminals
- c. Power LED - (Green)
- d. Pump HOA Switch
- e. Float LEDs - (Red) x3
- f. Pump LED
Pump Run - (Green)
Pump Fail - (Red)
- g. Simulate Float Buttons x3
- h. Float Terminals x6
- i. Seal Fail Pot - (Optional)
- j. Seal Fail LED - (Red) - (Optional)
- k. Auxiliary Alarm Terminals

PROGRAMMING INSTRUCTIONS			
WITH POWER ON, HOA OFF, FLOATS OFF OR DISCONNECTED, PRESS DESIRED FLOAT BUTTON RAPIDLY 4 TIMES AND HOLD			
PUMP LED WILL FLASH UPON SUCCESSFUL PROGRAMMING			
OPTIONS	FLOAT BUTTON	DEFAULT	OPERATION
MANUAL ALARM RESET	STOP	OFF	LATCHES HIGH ALARM: CLEAR WITH EXTERNAL TEST SWITCH
SEAL FAIL ALARM ACTIVATION	START	OFF	ACTIVATES HORN UPON SEAL FAIL
ALARM FLASHER	ALARM	OFF	FLASHES BEACON UPON HIGH ALARM

ALARM CONDITIONS			
ALARM	BEACON	CONTROLLER LED	HORN
PUMP POWER FAIL	FLASHING	RED PUMP LIGHT	NO
SEAL FAIL	FLASHING	SF1	PROG
FLOAT FAIL	FLASHING	BAD FLOAT NOT LIT	NO
HIGH ALARM	SOLID	ALARM FLOAT	YES



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