

SJE Rhombus® Select Start™ Starter Boxes

Installation Instructions and Operation/Troubleshooting Manual



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.

All conduit running to the control panel must be sealed with conduit sealant to prevent moisture or gases from entering the panel. NEMA 4X enclosures are for indoor or outdoor use, primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water and hose-directed water. **Cable connectors must be liquid-tight in NEMA 4X enclosures.**

Installation

Three phase starter boxes control one motor in water, wastewater, and sewage installations using incoming voltage of 208, 240, 480, or 575 VAC.

Mounting the Control Panel

1. Determine mounting location for panel. If distance exceeds the length of pump power cables, splicing will be required. For outdoor or wet installation, we recommend the use of an SJE Rhombus® liquid-tight junction box with liquid-tight connectors to make required connections. **You must use conduit sealant to prevent moisture or gases from entering the panel.**
2. Mount control panel with mounting devices furnished.
3. Determine conduit entrance locations on control panel.
NOTE: Be sure the incoming power, voltage, amperage, and phase meet the requirements of the pump motor being installed. If in doubt, see the pump identification plate for electrical requirements.
4. Drill proper size holes for type of connectors being used.
NOTE: If using conduit, be sure that it is of adequate size to pull the pump and switch cables through.
5. Attach cable connectors and/or conduit connectors to control panel.

**FOR INSTALLATION WITHOUT A SPLICE,
GO TO STEP 10; FOR INSTALLATION REQUIRING
A SPLICE, FOLLOW STEPS 6-9.**

6. Determine location for mounting junction box according to state and local code requirements. Mount junction box to proper support.
7. Run conduit to junction box. Drill proper size holes for the type of conduit used. Attach connectors to junction box.
8. Identify and label each wire before pulling through conduit into control panel and junction box. Make wire splice connections at junction box.
9. Firmly tighten all fittings on junction box.

Manufactured by:



SJE RHOMBUS.

Technical support: +1 800-746-6287
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Website: www.sjerhombus.com

Installation Instructions

10. If a junction box is not required, pull cables through conduit into control panel.
11. Set overload protective switch. Set the dial to match motor full load amps.
NOTE: Resetting the dial with power applied to the overload could start the motor.
12. Connect pump wires directly to TB1, positions 4, 5 & 6.
NOTE: Three phase motors will run in either direction. Check pump motor before installation for proper rotation. To correct rotation, change pump cable connections on any two terminals on TB1 position 4, 5, or 6.
13. Connect "power-in" conductor to proper location: 208/240/480 on transformer. **Install tagged factory wire to appropriate transformer primary voltage tap position. (This step is not needed with the 575V version.)**

VERIFY CORRECT OPERATION OF CONTROL PANEL AFTER INSTALLATION IS COMPLETE.

14. Install float, pressure switch or other control device to TB1:7 & 8 for Auto control.
15. Install incoming power to TB1: 1, 2, & 3.

Operations

SJE Rhombus® Select Start™ three phase starter boxes control one motor in water, wastewater, and sewage installations using incoming voltage of 208, 240, 480, or 575 VAC. Select Start starter boxes utilize a wide angle float switch to activate a combination motor controller to turn the motor on and off in Auto Mode and have an adjustable overload that allows for adjustment of motor overload current. Common applications include pump chambers, sump pump basins, irrigation systems, lift stations, and air compressor systems.

HOA Switch

A hand-off-automatic switch is provided for the pump. In the hand mode, the pump will turn on unless other safety features are employed. In the automatic mode, the pump will turn on from commands by the external auto motor start.

Motor Overload Switch

A motor overload switch is supplied for the pump to provide an adjustable overload and disconnect. The overload must be set in the field. To set the overload, dial the amp scale to the pump's full load amps (FLA). If the FLA's are unknown, use a calibrated amp meter to measure the pump amperage draw under loaded conditions. In the event of an overload trip, the motor overload switch must be reset by first turning the handle counterclockwise to the OFF position and then turning the handle 90° clockwise to the ON position.

For information regarding the
operations of options not listed here
or servicing questions,
please call an SJE Rhombus
customer service technician at

1-800-RHOMBUS
(1-800-746-6287)

Warranty void if panel is modified.

Troubleshooting

Float Controls

Check the floats during their entire range of operation. Clean, adjust, or replace floats.

Checking the float resistance - The float resistance can be measured to determine if the float is operating correctly or is defective. Use the following procedure to measure the float resistance:

1. Isolate the float by disconnecting one or both of the float leads from the float terminals.
2. Place one ohmmeter lead on one of the float wires, and the other ohmmeter lead on the other float wire.
3. Place the ohmmeter dial to read ohms and place on the R X 1 scale. With the float in the "off" position, the scale should read infinity (high resistance). Replace the float if you do not get this reading. With the float in the ON position, the scale should read nearly zero (very low resistance). Replace the float if you do not get this reading.

NOTE: Readings may vary depending on the length of wire and accuracy of the measuring device.

Indicator Lights

If defective, replace all indicator pilot lights with same type.

Motor Overload Switch

Test by pressing the test switch. The relay will trip.



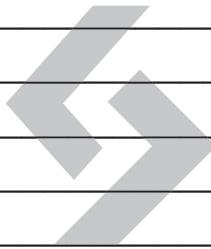
SJE Rhombus® Five-Year Limited Warranty

For complete terms and conditions, please visit www.sjerhombus.com.

NOTICE!

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.

NOTES: _____



SJE RHOMBUS[®]



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