

# **SJE RHOMBUS®** **Installation and Operating Instructions**

**SJE SIGNALMASTER® CONTROL SWITCH**

**SJE SIGNALMASTER® SPDT CONTROL SWITCH**

**SJE SIGNALMASTER® EP CONTROL SWITCH** (Earth Plate)

**SENSOR FLOAT® CONTROL SWITCH**

SJE Rhombus® control switches accurately monitor liquid levels in sewage, and non-potable water applications. These switches are not sensitive to rotation.

## SPECIFICATIONS

This equipment is suitable for Category II installations, rated to 60°C, and protected by double insulation.  
Approved for use in non-potable water.



### SJE SIGNALMASTER®

**SJE SIGNALMASTER® EP** (Earth Plate)

**SJE SIGNALMASTER® SPDT**

**CABLE:**

- SJE SignalMaster®:** Flexible 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant (CPE)
- SJE SignalMaster® EP:** Flexible 18 gauge, 3 conductor (UL, CSA) SJOW, water-resistant (CPE)
- SJE SignalMaster® SPDT:** Flexible 18 gauge, 3 conductor (UL, CSA) SJOW, water-resistant (CPE)

**FLOAT HOUSING:** All models, 7.0 cm x 12.3 cm, high impact, corrosion resistant, polypropylene, has IPX8 protection to a maximum water depth of 10 meters.

**ELECTRICAL:**

- 125 VAC Rated Voltage:**  
**Rated Current:** 5 amps  
**Frequency:** 50/60 Hz
- 250 VAC Rated Voltage:**  
**Rated Current:** 5 amps  
**Frequency:** 50/60 Hz

Switch is not recommended for controlling electric loads less than 100 milliamps, 12 VAC or non-arcing electric loads.

### SENSOR FLOAT®

**CABLE:** Flexible 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant (CPE)

**FLOAT HOUSING:** 8.6 cm x 11.6 cm, high impact, corrosion resistant PVC, has IPX8 protection to a maximum water depth of 10 meters.

**ELECTRICAL:**

- 120 VAC Rated Voltage:**  
**Rated Current:** 5 amps  
**Frequency:** 50/60 Hz
- 230 VAC Rated Voltage:**  
**Rated Current:** 10 amps  
**Frequency:** 50/60 Hz

Switch is suitable for use with intrinsically safe circuits. Contact SJE Rhombus regarding specific intrinsically safe applications.

### PREVENTATIVE MAINTENANCE

- Periodically inspect the product. Check that the cable has not become worn or that the housing has not been damaged so as to impair the protection of the product. Replace the product immediately if any damage is found or suspected.
- Periodically check to see that the float is free to move and operate the switch.
- Use only SJE Rhombus® replacement parts.
- The Sensor Float® control switch contains mercury and **MUST** be recycled or disposed of according to local, state, and federal codes.

***For detailed specifications on this product, or for the complete line of SJE Rhombus® panel, alarm, and switch products, visit our web site at [www.sjrhombus.com](http://www.sjrhombus.com).***

## SJE RHOMBUS® FIVE-YEAR LIMITED WARRANTY

Five-Year Limited Warranty.  
For complete terms and conditions, please visit [www.sjrhombus.com](http://www.sjrhombus.com).

**ELECTRICAL SHOCK HAZARD**

Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

**EXPLOSION OR FIRE HAZARD**

Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

**MOUNTING THE SWITCH**

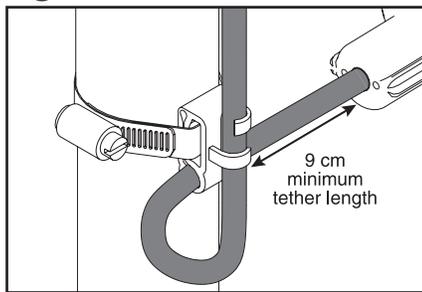
**WARNING:** Do not install switch in direct line of incoming liquid.

1. Place the cord into the clamp as shown in Figure A.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures B and C.

**Note:** Do not install cord under hose clamp.

3. Tighten the hose clamp using screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Wire switch as shown in Figure D.
5. Check installation. Allow system to cycle to insure proper operation.

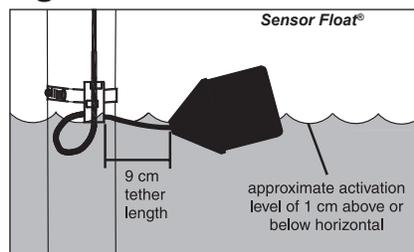
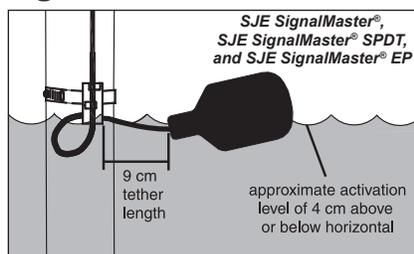
**Note:** All hose clamp components are made of 18-8 stainless steel material. See your SJE Rhombus® supplier for replacements.

**Figure A****CABLE WEIGHT**

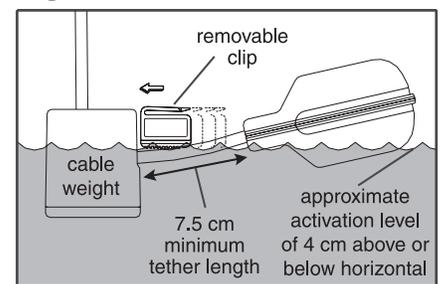
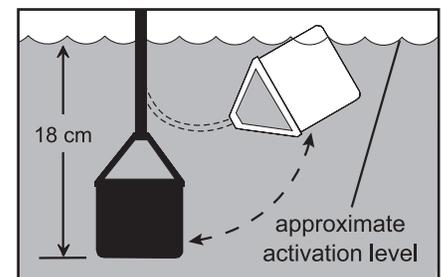
1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire switch as shown in Figure D.
4. Check installation. Allow system to cycle to insure proper operation.

To adjust cable weight tether length:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

**Figure B****Figure C****INTERNAL WEIGHT****SENSOR FLOAT® ONLY**

1. Determine desired activation level as shown in Figure B.
2. Suspend switch 18 cm below desired activation level as shown in Figure F. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire switch as shown in Figure D.
4. Check installation. Allow system to cycle to insure proper operation.

**Figure E****Figure F****Figure D**

<b>SJE SIGNALMASTER® SPDT ONLY</b>		<b>SJE SIGNALMASTER® EP</b>	<b>SJE SIGNALMASTER® &amp; SENSOR FLOAT®</b>
<b>125/250 VAC NORMALLY OPEN</b>	<b>125/250 VAC NORMALLY CLOSED</b>	<b>125/250 VAC EP MODELS</b> <b>NORMALLY OPEN/NORMALLY CLOSED</b>	<b>NORMALLY OPEN/NORMALLY CLOSED</b>



In 230 VAC installations, one side of the line going to the load is always **HOT**. This condition exists if the switch is on or off. Install double pole disconnect on all 230 VAC circuits.

On SPDT models, insulate unused red or black wires with wire nut. Wire can become electrically hot.



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Technical Support Hours: Monday-Friday, 7 A.M. to 6 P.M. Central Time

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