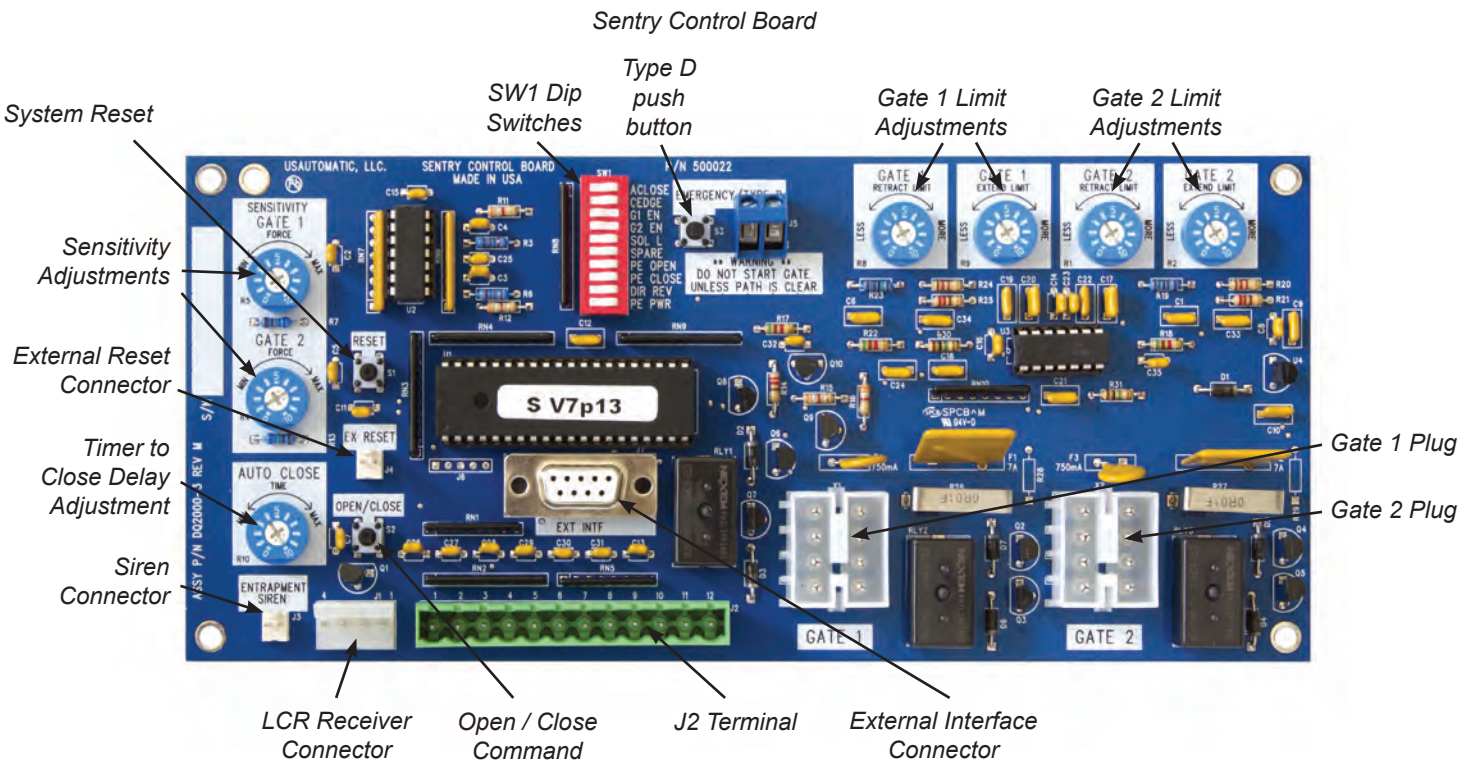


Troubleshooting Guide

Introduction

The Sentry control board features to assist in troubleshooting a gate system.

1. The on board "Open / Close Command" push button.
2. The S4 push button - Type D protection - This button makes it possible to operate the gate with the J2 Accessory plug removed. Type D button will bypass all entrapment devices allowing gate operation. Verify gate path is clear before pressing button. Must hold button for gate operation.
3. Low battery Audible notification - If the battery voltage falls below 10.5 VDC the siren will beep 3 times rapidly pause 5 seconds and repeat for 60 seconds. The next time the gate is operated this will repeat until the battery problem is corrected.



Terms and Definitions

Control board - Located inside the control box in the upper right corner.

Linear Actuator - Connected to gate and hinge post - contains the motor, gearbox, rotary potentiometer and extension tube.

Dip Switches - Small switches, which are located on the control board. SW1, is located in the upper center of the control board.

Sensitivity adjustments - Located on the control board. These adjustments are the primary safety feature. If the gate comes in contact with an object it will stop and reverse. These adjustments control the amount of force applied to an object before reversing the gate.

Battery Controller - Located inside the control box. This is the battery charger. The input power for this device can be either from a DC Adaptor or from a solar panel.

DC Adaptor - This device connects to a 110 VAC electrical outlet and converts it to a low DC voltage that can be connected to the controller to provide continuous charging of the battery.

Entrapment Siren - If the control board sensitivity circuit senses an obstruction it will reverse the gate and if a second obstruction is detected before the gate reaches a fully open or close limit the control board will shut down the operator and sound the entrapment alarm for five minutes or until the "Reset" button is pressed.

Low battery alarm - if battery voltage falls below 10.5 vdc the siren will emit 3 quick burst and repeat every 5 seconds.

Summary of Symptoms Included in This Guide

1. Gate 1 or Gate 2 will not operate. Single gate installation.
2. Gate 1 or Gate 2 will not operate. Dual gate installation.
3. Gate 1 and Gate 2 will not operate. Dual gate installation.
4. Single or Dual gate installation opens or closes very slow.
5. Single or Dual gate installation will not automatically close.
6. Single or Dual gate installation automatically opens instead of automatically closing.
7. Gate begins to open or close, but stops and reverses after a couple of seconds.
8. Pressing the "RESET" button only, causes the gate to operate (open, close and stop) acts like transmitter.
9. Transmitter (Remote control) will not operate the gate.
10. Photo eye or other safety accessory will not reverse the gate when closing.
11. Transmitter operating range seems short
12. Gate 1 or 2 opens and closes, but stop positions have changed
13. Gate 1 or Gate 2 only operates in one direction
14. Wire harness 20 amp fuse blows when harness is connected to battery



<p>* IMPORTANT FIRST STEP</p>	<p>First thing to verify is that no monitored entrapment devices are creating the problem.</p> <ol style="list-style-type: none"> 1. Press the Open/Close button on the control board. If gate does not operate proceed to step 2. 2. Press the Type D S4 push button and hold to operate the gate. 3. If gate operates while pressing the S4 button then a monitored device is preventing normal operation. 4. If control board clicks and gate does not operate the battery needs to be load tested, replace or charge as necessary. 5. Identify monitored devices connected and check for proper operation.
<p>1. My single gate will not operate: (connected to Gate I or Gate II)</p> <p>This assumes that the in-line 20 AMP fuse in the Plug N Go Harness has been checked.</p> <p>Verify monitored entrapment device switches are set correctly. See installing monitored entrapment devices section.</p>	<ol style="list-style-type: none"> 1. Open control box cover and locate the “Open/Close Command” push button and press it to operate the gate. 2. Press the “Reset” push button located above the open close command, then push the “open/close command” push button to operate the gate. 3. When pressing the “open/close command” push button, listen for a clicking sound, if click is heard then verify: <ul style="list-style-type: none"> A. Verify the correct control switch is “ON” corresponding to the Gate 1 or Gate 2 connector the linear actuator is connected to. B. If step A switch setting was correct, then the problem is most likely low power. C. Low power can be caused by two things – Low battery voltage or a bad connection at the battery. Battery will need to be load tested to verify it is good. Replace battery or correct connection problem at battery. 4. Remove the receiver connector plugged into the J1 connector. Press the “Open/Close Command” button and verify gate operates. Reconnect Receiver and test again. 5. Disconnect linear actuator connector from the control board and connect it to the other (Gate 1 or Gate 2) connector on the control board. Then set the corresponding control switch to the “ON” position. Press the “Open/Close Command” button and verify gate operates. If gate operates on the other connector that is acceptable. 6. If gate still does not operate please call the Sentry support staff for more information.



<p>2. Gate 1 <u>or</u> Gate 2 will not operate. Dual gate Installation</p> <p>Verify monitored entrapment device switches are set correctly. See installing monitored entrapment devices section.</p>	<ol style="list-style-type: none"> 1. These instructions are for the failure of one gate to operate in a dual gate installation. 2. Identify the gate that will not work and check the control switch for that gate and verify that it is turned "ON". 3. Swap the Gate 1 and Gate 2 linear actuator connectors on the control board. If problem moves to other gate then the control board is bad. 4. If problem remains in the same gate then the problem is either a wire problem or linear actuator problem. Since it is a possible wire problem we need to check the following: <ul style="list-style-type: none"> A. Wire harness for cuts, nicks or bad splices if splice exist. B. If gate with problem is the gate located on the other side of drive from control box (Gate 2) the cable under the drive needs to be verified good. This is done by using a voltmeter and going to the junction box located below the Gate 2 linear actuator. Locate the red wire with white stripe and the black wire with white stripe and then operate the gate and check voltage on these two wires (expect 12 VDC). C. If voltage is present when gate should be operating then the problem is most likely the linear actuator. D. If voltage is not present when gate should be operating then move back to the control box side and check voltage on same two wires located in the wire compartment. E. If voltage is present on the control box side of drive then the cable in the ground must be damaged. F. If voltage is not present in the control box then we have missed something in steps 2 or 3, recheck.
<p>3. Gate 1 <u>and</u> Gate 2 will not operate. Dual gate installation</p> <p>This assumes that the in-line 20 AMP fuse in the Plug N Go Harness has been checked.</p>	<ol style="list-style-type: none"> 1. These instructions are for the failure of both gates to operate in a dual gate installation. 2. Verify that control switches 3 and 4 are turned "ON". 3. Verify the red and black wires on the Plug N Go harness are connected to the battery correctly. Red connects to positive and black connects to negative post on the battery. 4. Verify that the battery is charged, press the "Open/Close Command" push button, if a clicking sound is heard from the control board then most likely the battery is dead. Have the battery load tested to verify it is bad. 5. If battery checks good (passed the load test) then the control board is most likely the problem. To think that 2 motors have gone bad would not make sense but is also a possibility.



<p>4. Gate 1 or Gate 2 (Gate 1 and Gate 2 if dual gate) operating speed has slowed down</p>	<p>When the gate is running slow, the reason is low power. The battery controller does not output any voltage or current when disconnected from the battery, you cannot check the battery controller by disconnecting from battery and measuring output voltage. To check battery controller output, disconnect from battery, measure battery voltage and note. Reconnect charger and monitor battery voltage it should rise above the battery voltage noted above.</p> <p>Two things need to be considered.</p> <ol style="list-style-type: none"> 1. Battery condition (replace or charge) 2. The 1/4" ring terminals located on the Plug N Go harness which are connected to the battery. The ring terminals can become corroded and need replacing over time. <p>Remove battery and have it load tested at a battery shop. Replace if bad.</p>
<p>5. Single or Dual gate installation will not automatically close</p>	<p>If SW1 switch 1 is turned "ON" then the gate should auto close from any gate position.</p> <ol style="list-style-type: none"> 1. Locate the "Open/Close Command" push button; press the button to verify that the gate will close. If gate closes correctly then proceed to the steps below. If gate will not close go to step 5. 2. Verify that SW1 switch 1 is turned "ON". Gate must be cycled once switch is turned "ON" for control board to recognize switch setting. Suggestion flip SW1 switch 1 ON and OFF to ensure it is turned ON. 3. The receiver P2 relay could be set for latch open mode. To verify: press the transmitter button 2 one time, then press the transmitter button 1 one time and see if gate closes. If gate closes, then the hold open mode was enabled. For more information see page 22.



<p>6. Single or dual gate installation gate auto opens instead of auto closing</p>	<ol style="list-style-type: none"> 1. In this condition the open time can be controlled by adjusting the auto close timer adjustment. 2. If installed in the pull to open configuration then control switch number 9 should be turned "OFF" verify it is. If installed in the push to open configuration verify switch is turned "ON". 3. Gate is trying to close too far. Readjust close limit adjust for gate 1 or gate 2 to the correct stop position. 4. If time before auto opening cannot be adjusted and occurs in a couple of seconds after closing then the close limit adjustment of one or both gates is misadjusted. The feature that is causing the gate to open is the current sense circuit on the control board. The gate is trying to close farther than possible and it has traveled to the full extent of the linear actuator. Verify that linear actuator harness has no cuts or nicks. 5. Verify correct installation of the universal actuator bracket. Possible cause is incorrect installation of the gate bracket or linear actuator bracket. Verify and correct as required.
<p>7. Gate begins to open or close and stops and reverses after a couple of seconds</p>	<ol style="list-style-type: none"> 1. This occurs when the sensitivity circuit on the control board senses an obstruction. Verify that the gate is not obstructed by some object at the point where it reverses. Could also be due to hinges binding or gate contacting ground. 2. This is an adjustable feature and the cause could simply be an adjustment of the Gate 1 or Gate 2 sensitivity. Turn the sensitivity adjustment clockwise to increase force setting and always set the Gate 1 and Gate 2 adjustment to the same setting on a single gate installation. In dual gate installation adjust both as necessary.
<p>8. Pressing the "RESET" button only, causes the gate to operate (open, close and stop) acts like transmitter.</p>	<ol style="list-style-type: none"> 1. This problem is probably due to a bad receiver. 2. To isolate this disconnect the J3 connector from the control board. 3. With J3 disconnected see if Reset button causes gate to operate. If gate no longer operates when Reset is pressed then the receiver was the cause. 4. Connect J3 back to Sentry control board and see if problem returns. If problem returns then the receiver is bad.



<p>9. Transmitter (remote control) will not operate the gate</p> <p>Open/Close command button on control board will operate gates</p>	<ol style="list-style-type: none"> 1. Remove the J1 connector from the control board and then reconnect, press transmitter button to verify operation. 2. Open the control box and press the transmitter button to operate the gate, listen closely for a clicking sound coming from the receiver. Click should be heard when the transmitter button is pressed if transmitter and receiver programming is correct and they are working correctly a sound should be heard. 3. If click was not heard verify that "Programming transmitter and Receiver" steps have been completed. 4. If clicking sound was not heard, verify that transmitter battery is good, replace if necessary. 5. If click was not heard verify that transmitter dip switches were not changed after initial programming, if so then reprogram transmitter to receiver or set back to original setting. 6. If click was not heard verify that receiver has power applied to it by pressing the P1 button on receiver and holding down until green light comes "ON" then release P1. If light comes "ON" then power to unit is correct. If light does not come "ON" verify that connector J1 is connected to control board correctly. If light does not come "ON" and power to receiver is good then receiver is possibly bad. 7. If clicking sound was heard then the problem might possibly be the control board. Verify control board is not the problem. Perform the following steps: <ul style="list-style-type: none"> A. Remove the J1 connector from the control board B. With J1 removed use a small screw drive to short the center 2 pins on J1 together. When these 2 pins are connected the gate should operate. If not the control board has a problem.
<p>10. Photo-eye or other safety accessory will not reverse the gate when closing or hold the gate open</p>	<ol style="list-style-type: none"> 1. The first thing to check is the accessory wiring. 2. Accessory being used should be wired with the N/O wire connected to J2 pin 11. 3. Verify the control switch "Operating Direction Reverse" switch is set in the correct position, Pull to Open switch is OFF. 4. Connect a wire to J2 pin 11 then start the gate closing and then touch the free end of this wire to J2 pin 2. Gate should stop and reverse. If gate reverses then the control board is working correctly and the accessory is the problem.. 5. If gate does not stop and reverse, the control board is the problem.

<p>11. Transmitter operating range seems short</p>	<ol style="list-style-type: none"> 1. Replace the batteries in the transmitter. 2. Verify that the receiver antenna (short wire connected to the receiver) is not twisted or rolled up. It should be pointing toward the control box cover. 3. Some type of radio frequency interference is obstructing signal from transmitter to receiver. Possible causes are electric fence, high voltage electric lines in ground or overhead. Radio towers in the area, military bases etc.. In some cases this might not be avoided or possibly a different frequency receiver needs to be installed.
<p>12. Gate 1 or 2 opens and closes, but stop positions have changed</p>	<ol style="list-style-type: none"> 1. Readjust retract or extend limits 2. Verify gate open or close speed is approximately 16 seconds 3. If much slower than 16 seconds check battery voltage by looking at the battery controller. 4. If battery is low remove and have load tested. 5. Check actuator cables for damage or wet splices.
<p>13. Gate 1 or Gate 2 only operates in one direction</p>	<ol style="list-style-type: none"> 1. Verify that the cable from linear actuator to control board has not been damaged. 2. If cable has splices, verify that connections are good and that any exposed wires are dry. 3. Verify that the problem exists in both the Gate 1 and gate 2 connectors on the control board. Make sure dipswitch for Gate 1 or gate 2 is ON when testing. 4. If problem persists, call Sentry Customer Service. 1-866-711-0001.
<p>14. Wiring harness 20 amp fuse blows when harness is connected to the battery</p>	<ol style="list-style-type: none"> 1. Possible short in the wiring harness.

