



Troubleshooting Guide

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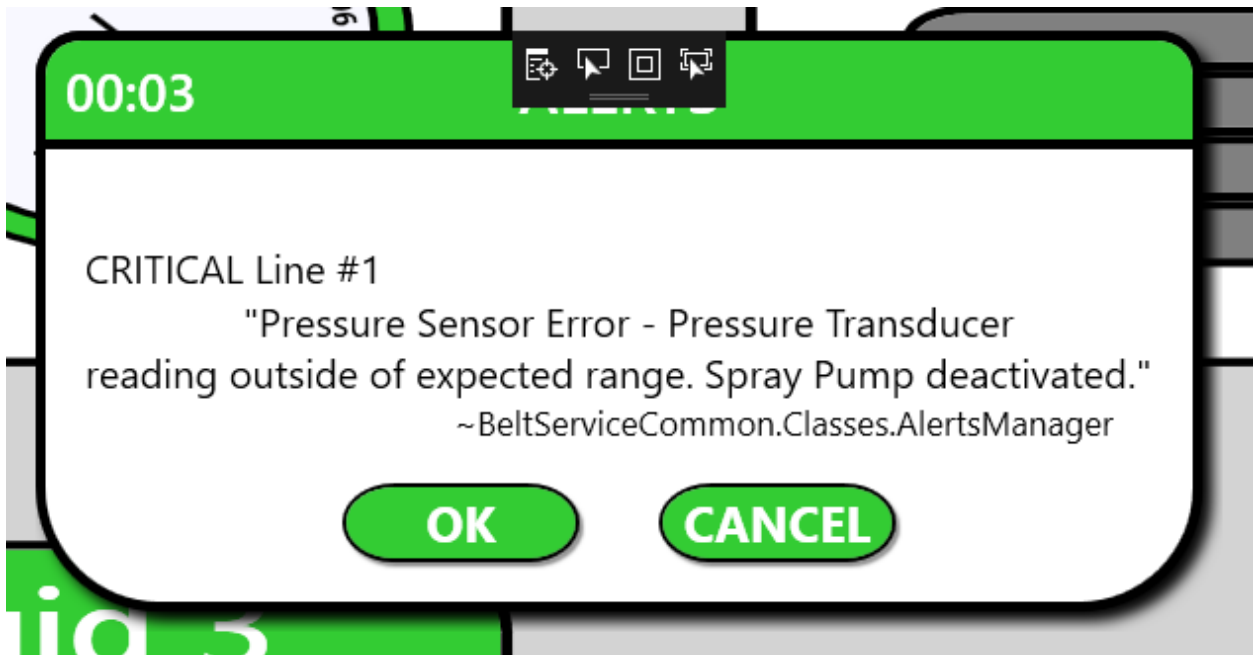
616-249-0200



The Brown Central Source Machine is programmed to catch and handle all kinds of potential failure modes. When the Central Source sensors detect unusual machine behavior, they will communicate an error to the software. The software then throws an alert to the user interface. When the software receives an error from the machine, one of the rows of red LEDs will light up on the stacklight above the machine. The top row will light up if there is an error on Line 1, the middle row for Line 2, and the bottom for Line 3. In addition to the LEDs, any time an error is detected, an alert icon will appear on the top home bar of the user interface, shown below.



The alert icon that appears when an error is detected



The alert window that opens when you tap the alert icon

Tapping the alert icon will open the alert window shown above. The alert window contains the name of the fluid line that threw the error, the name of the error, a short description, and a report of which pump(s) have been deactivated. The window then gives the user two options 'OK' and 'Cancel'. Tapping 'Cancel' will do nothing other than close the window. The icon will remain on the screen, and the window can be opened again. Tapping 'OK' will tell the machine that the user acknowledged the alert, and has

taken the necessary action to remedy the situation. The error will be cleared, any deactivated pumps will be reactivated, the icon will disappear, and the machine will return to normal operation. If the issue that caused the error in the first place is still present, the alert will likely be thrown again, either immediately or within a few minutes.

This guide will help the user identify the alert being thrown, list many of the possible reasons for the error, and suggest multiple solutions. For details on how to perform certain procedures, see Central Source Maintenance Guide.

If all the checks are completed, and a fixable issue is not found, call Brown Manufacturing: (616) 249-0200.

Error Message: "Fluid Level Critical - Fluid Level is below Critical Tank Level. Spray Pump deactivated."

Detailed Description: This error is thrown when the machine detects that the volume of fluid in the 5gal tank is lower than the level set as the critical fluid level (default 1gal).

Possible Causes/Solutions:

- Check that the 5gal tank is, in fact, low on fluid
 - Look at the physical fluid volume of the 5gal tank in the fluid cabinet
 - If it is not less than 1gal, there is an issue with the fluid sensor
 - Navigate to Factory Settings → Sensor Calibration
 - Push the fluid scale up and down and check that the 'Raw' value changes
 - If it does not, there is an issue with the hall effect sensor
 - Check that the hall effect sensor is mounted above the scale
 - Check that the sensor's mounting bracket is firmly fastened to the wall of the fluid cabinet, and not sliding up and down
 - Check that the magnet is mounted at the top of the scale
 - Check that the sensor's cable is connected to port 9 on the ZMTR119 board in the control panel
 - Complete the Fluid Sensor Calibration Procedure in the Central Source Maintenance Guide
- Check that the fill pump is not in manual control mode
 - Navigate to Diagnostics, and check that the checkbox underneath the pump has a red X
- Check that the pump is receiving power
 - Tap the manual control checkbox so there is a green check
 - Tap the pump icon and make sure the pump turns on
 - If the pump does not turn on, it is not receiving power
 - Check that the electrical connector to the pump is plugged in, and that the pin numbers on the connectors line up properly

- Check that the other end of the pump cable is connected to port 5 on the ZMTR119 board inside the control panel
- With the pump running, see if fluid is flowing through the line
- If there is no fluid flow, the pump is not suctioning properly
 - Tighten the bowl filter as hand-tight as possible
 - Check that the bottom of the dip tube is well below the fluid level of the 55gal source tank
 - Inspect the dip tube and check that there are no cracks
 - Check that the quick-disconnect connections on either side of the pump are secure

Error Message: "5 Gal Tank Refill Error - Tank did not completely refill before timer elapsed. Fill Pump deactivated."

Detailed Description: This error is thrown when the machine has been running the fill pump for a certain amount of time, attempting to refill the 5gal tank, but has not seen a significant change in the level of fluid in the 5gal tank.

Possible Causes/Solutions:

The causes of this error are very similar to those of the Fluid Level Critical error. See steps above

Error Message: "Fluid Line Pressure Error - Fluid Pressure dropped below Alarm Pressure. Spray Pump deactivated."

Detailed Description: This error is thrown when the machine detects that the pressure in the fluid line has been below the Alarm Pressure for a certain amount of time.

Possible Causes/Solutions:

- Check that the manual bleed valve is in the 'Operation' mode
- Check that the spray pump is not in manual control mode
- Check that the physical pressure gauge on top of the machine reflects a loss of pressure
- If it does not, there may be an issue with the pressure transducer
 - Check that the pressure transducer (on the left side of the spray cabinet) is connected to its communication cable
 - Check that the other end of the cable is connected to port 8 on the ZMTR119 board inside the control panel
- Check that the spray pump is receiving power
 - Tap the manual control checkbox so there is a green check
 - Tap the pump icon and make sure the pump turns on

- If the pump does not turn on, it is not receiving power
 - Check that the electrical connector to the pump is plugged in, and that the pin numbers on the connectors line up properly
 - Check that the other end of the pump cable is connected to the power supply inside the control panel
- With the pump running, see if fluid is flowing through the line
- If there is no fluid flow, the pump is not suctioning properly
 - Tighten the bowl filter as hand-tight as possible
 - Check that the bottom of the dip tube labeled 'Tank X Output' is well below the fluid level of the 5gal
 - Inspect the dip tube and check that there are no cracks
 - Check that the plumbing connections on either side of the pump are secure

Error Message: "Fluid Sensor Error - Hall Effect Sensor reading outside of expected range. Fill Pump and Spray Pump deactivated."

Detailed Description: This error is thrown when the hall effect sensor reads values lower/higher than the specified minimum/maximum.

Possible Causes/Solutions:

- Check to make sure that there is a tank on the fluid scale
- Navigate to Factory Settings → Sensor Calibration
- Push the fluid scale up and down and check that the 'Raw' value changes
- If it does not, there is an issue with the hall effect sensor
 - Check that the hall effect sensor is mounted above the scale
 - Check that the sensor's mounting bracket is firmly fastened to the wall of the fluid cabinet, and not sliding up and down
 - Check that the magnet is mounted at the top of the scale
 - Check that the sensor's cable is connected to port 9 on the ZMTR119 board in the control panel
- If the value does change, check that the tank is still on the scale, and clear the error. If the error is thrown again, contact Brown Manufacturing.

Error Message: "Pressure Sensor Error - Pressure Transducer reading outside of expected range. Spray Pump deactivated."

Detailed Description: This error is thrown when the pressure transducer sensor reads values lower/higher than the specified minimum/maximum.

Possible Causes/Solutions:

- If this alert is thrown, it is most likely that something is wrong with the pressure transducer.
 - Check that the pressure transducer (on the left side of the spray cabinet) is connected to its communication cable
 - Check that the other end of the cable is connected to port 8 on the ZMTR119 board inside the control panel

Error Message: “Fluid Level for line has an erratic calibration.”

Detailed Description: This error is thrown when a fluid level cannot be reliably determined from the current sensor calibration points.

Possible Causes/Solutions:

- If this alert is thrown, something is wrong with the fluid sensor calibration
 - Complete the Calibrating a Fluid Sensor steps in the Central Source Maintenance Guide.

Error Message: “Fluid Level for line is returning negative values.”

Detailed Description: This error is thrown when the software is calculating the fluid level to be a negative value.

Possible Causes/Solutions:

- If the 5 gal tank for the line is empty (volume), it is possible the machine read this as a slightly negative value.
 - Either manually fill the tank or clear all errors to allow it to refill automatically.
 - If the error persists, complete the Calibrating a Fluid Sensor steps in the Central Source Maintenance Guide.