

Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Contents

Overview	2
How To View Active Alarms:	2
Unit Shutdown Related Alarms	3
Emergency Shutdown	3
Phase Loss Alarm	4
Fan Fail Alarm.....	5
Supply Temperature High Limit	6
Supply Temperature Low Limit	7
Compressor Related Alarms.....	8
RSMx Alarm.....	8
High Head Pressure Comp# Detected.....	9
Low Suction Pressure Comp# Detected.....	10
Low Suction Pressure Failure Comp#.....	11
Compressor Fault Comp#.....	12
Compressor Cutoff Comp#.....	13
Compressor Lockout Comp#	14
Low Superheat Detected Comp# (Only applies to RSM-V or RSM-Z)	15
High Superheat Warning Comp# (Only applies to RSM-V or RSM-Z)	15
High Superheat Failure Comp# (Only applies to RSM-V or RSM-Z)	15
High Superheat Lockout Comp# (Only applies to RSM-V or RSM-Z)	15
Heat Related Alarms	16
Heat Alarm	16
Offline Devices Related Alarms.....	17
VCCX Offline	17
RSM Offline	17
EM1 Offline	17
Sensor Failure Related Alarms	18
Sensor Failure Alarm	18
No Suction Pressure Sensor Detected Comp#	19
No Head Pressure Sensor Detected Comp#.....	20
Compressor Bad Temperature Comp#	21
Supply Temperature Failure.....	22

Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Notice Related Alarms23

 Clogged Filter Notice.....23

 CO₂ Notice (if equipped)24

 Heat Reclaim Notice (if equipped).....25

 Refrigerant Leak Notice (if equipped).....26

i-Controller 2.0 Alarm Reset Instructions:27

 To Reset Alarms:27

Overview

The following document is used to troubleshoot controller alarms. When an i-Controller 2.0 alarm exists, you can refer to this document to understand the condition.

How To View Active Alarms:

1. From any screen, press the 'Alarm' button
2. Use the 'UP' / 'DOWN' arrows to scroll through the active alarms.
3. The Alarm screens will display the alarm code in the upper left of the screen, number of alarms will display and the upper right of the screen, date, and time of the alarm occurrence., and alarm description.
4. Press 'Escape' to return to the Overview screen.

NOTE: Data logger will only hold 100 alarm entries.



Figure 1. Standby Screen

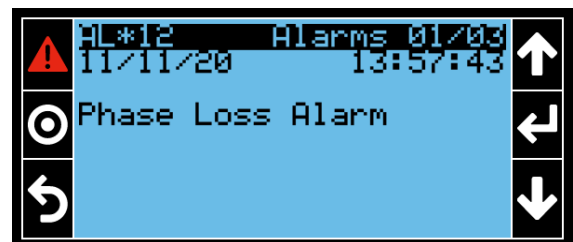


Figure 2. Alarm Screen

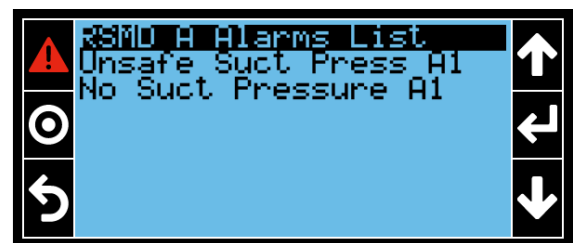
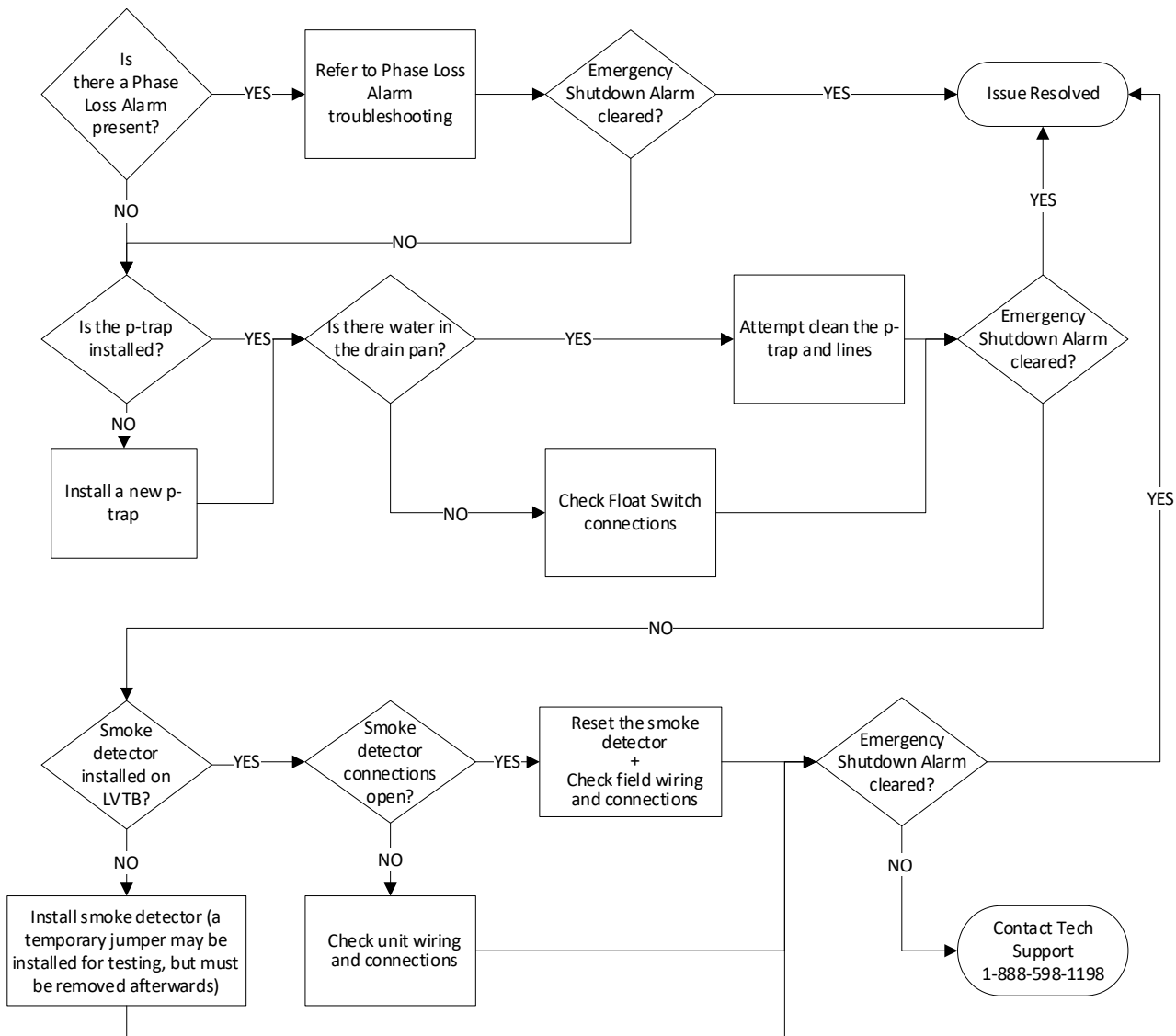


Figure 3. RSMD Alarm Screen

Unit Shutdown Related Alarms

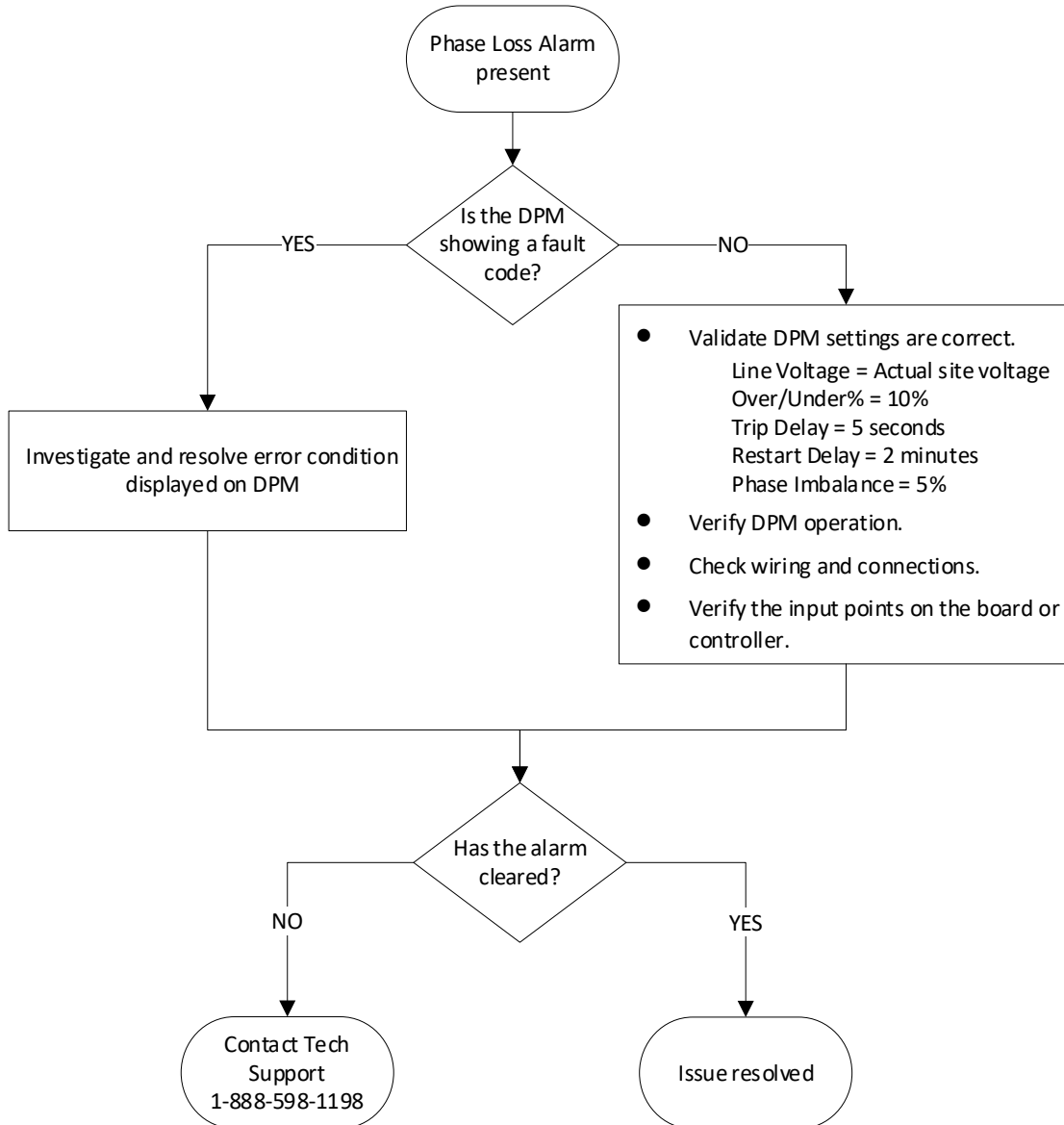
Emergency Shutdown

The Emergency Shutdown alarm is activated when any of the following occur: smoke detection, drain pan overflow or phase loss occurs. This alarm will cause the unit to shut down. This alarm is automatically reset once all three inputs are restored.



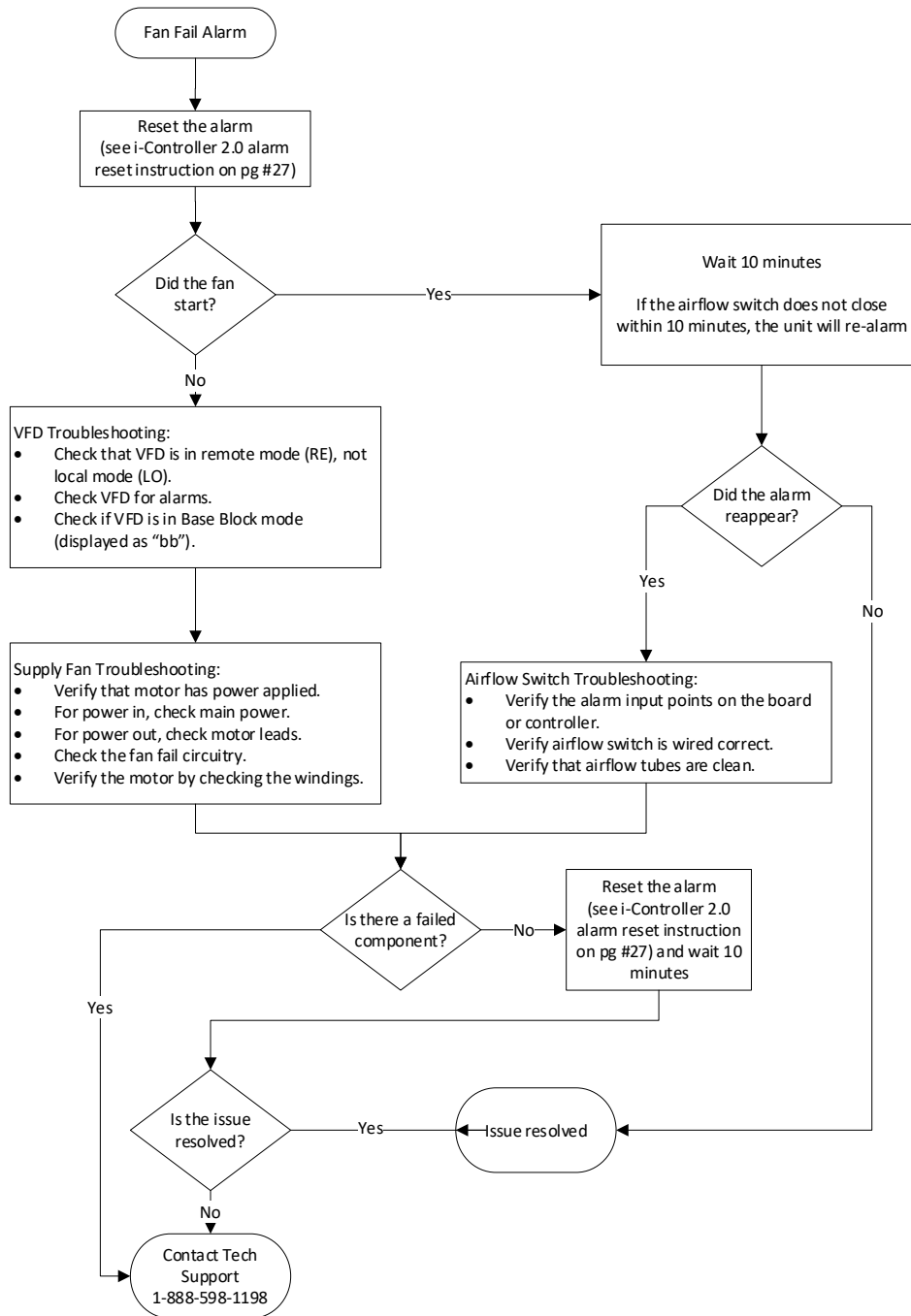
Phase Loss Alarm

Alarm activated when the digital phase monitor detects a fluctuation in the main unit power outside of the acceptable limits. This alarm will cause the unit to shut down after a 30-second delay. Alarm is activated via an opening of the normal closed phase loss input and is automatically reset upon closure of the input.



Fan Fail Alarm

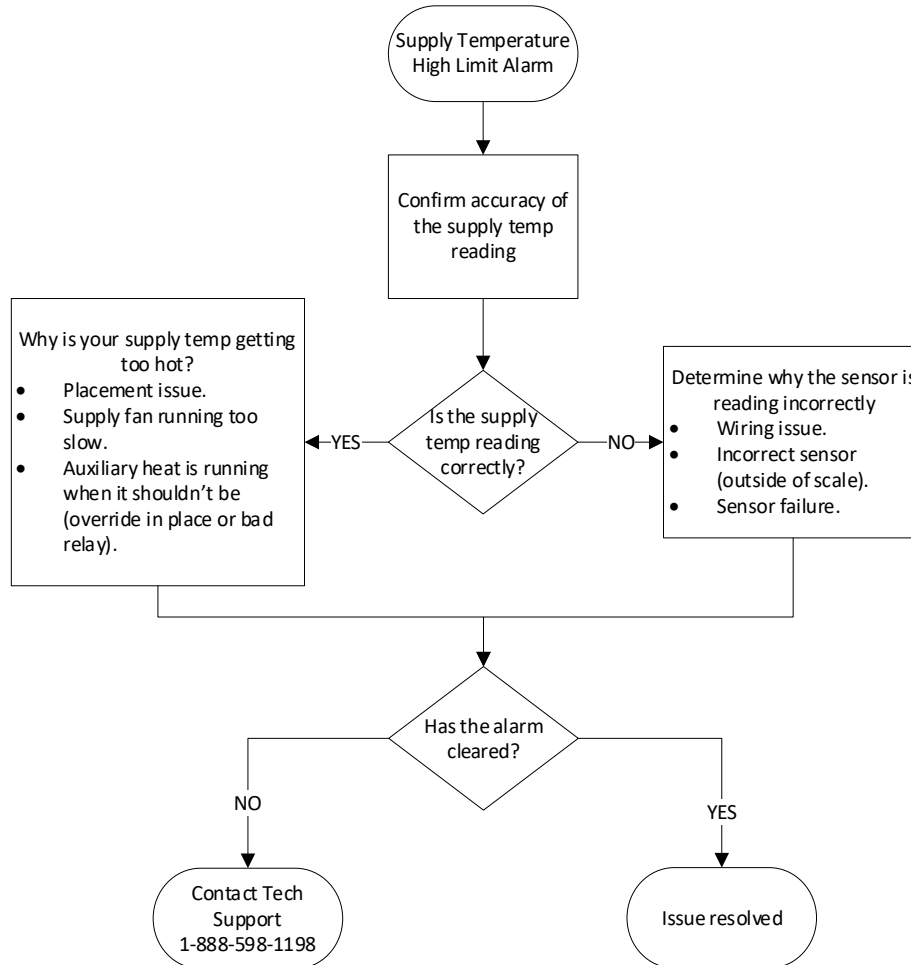
Alarm activated when the fan proof has not been made for more than 10-minutes. This alarm will cause a unit shutdown and must be manually reset in the display.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Supply Temperature High Limit

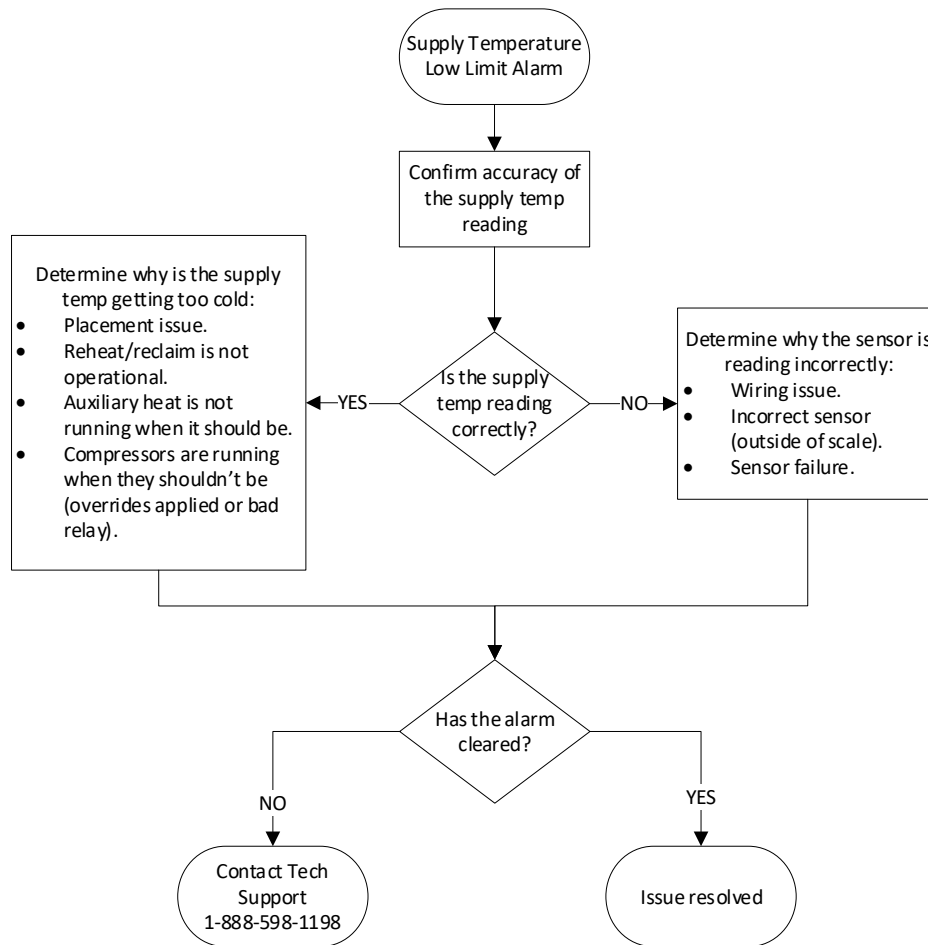
When the supply air temperature rises above the supply air high temperature cutoff, 150°F, the unit will immediately shut down the unit and an alarm will be generated. Alarm will clear and unit will restart once the supply air temperature is 5 degrees below the supply air high temperature cutoff.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Supply Temperature Low Limit

When the supply air temperature drops below the supply air low temperature cutoff, 40°F, for 10 minutes, the unit will completely shut down all mechanical cooling and an alarm will be generated. Alarm will clear and unit will restart once the supply air temperature is 5 degrees above the supply air low temperature cutoff.



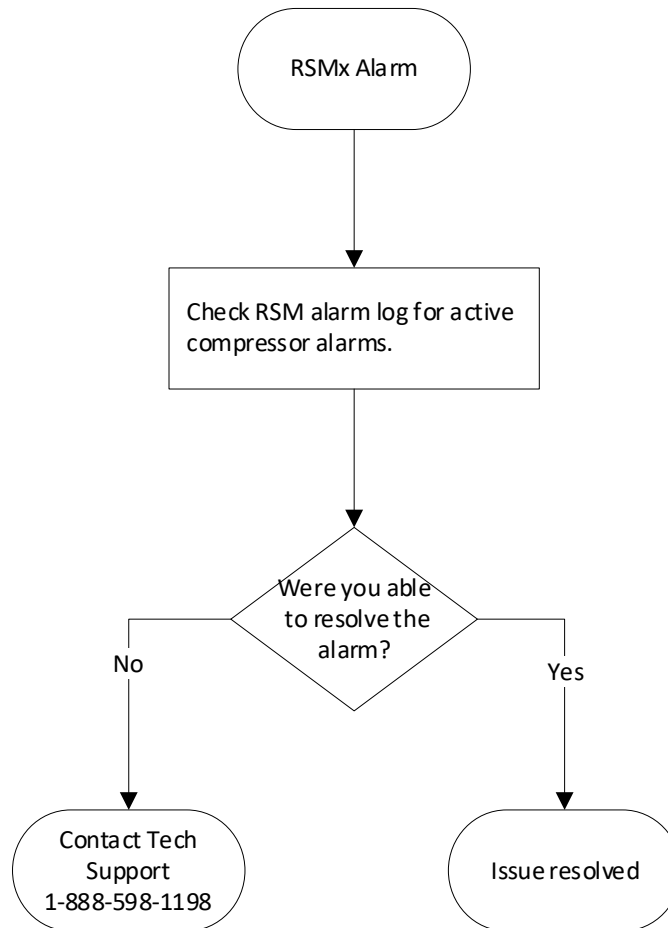
Title:

i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Compressor Related Alarms

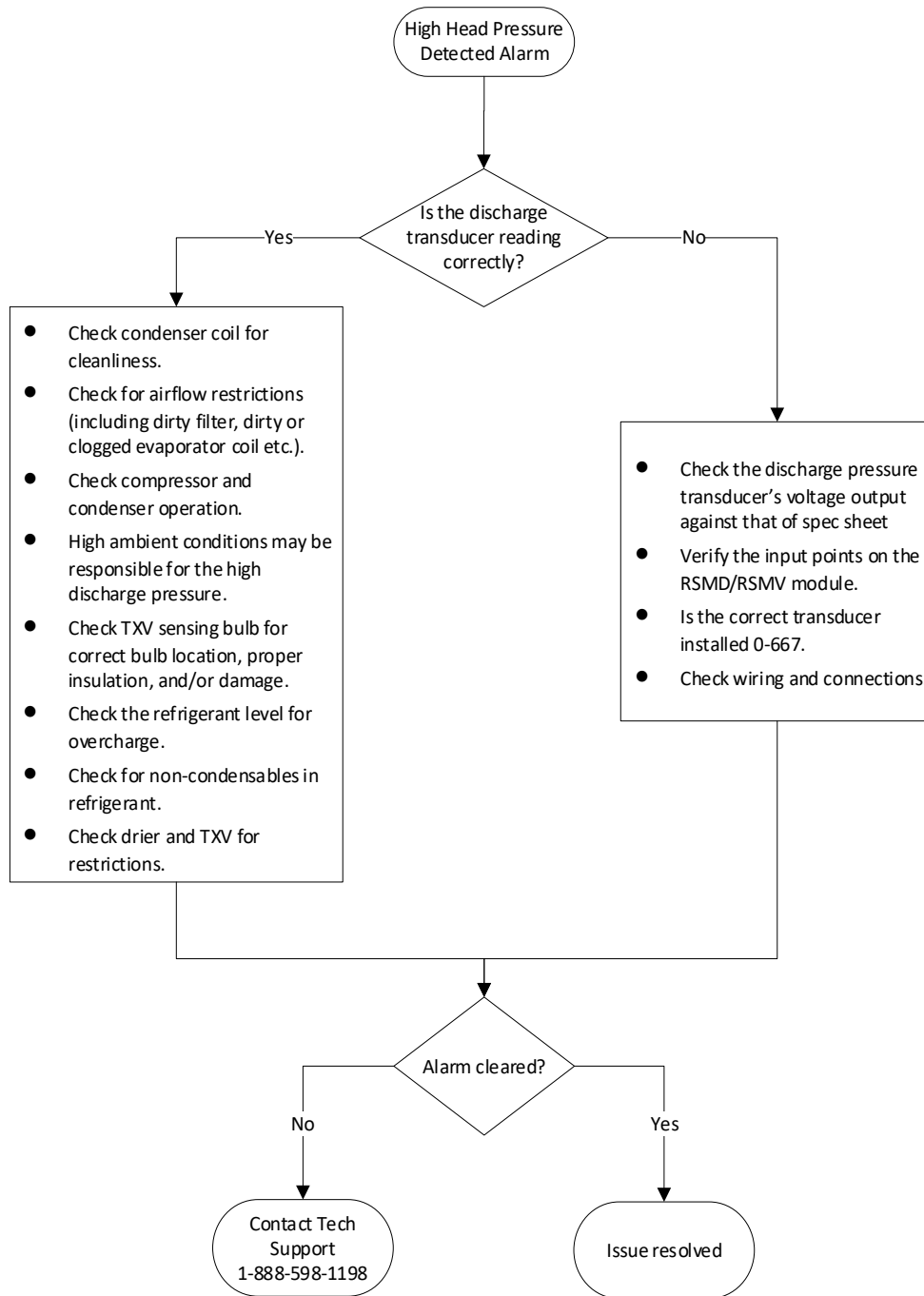
RSMx Alarm

Alarm is active whenever there is an active alarm in the RMS module. Alarm will automatically reset once RSM module alarms are resolved.



High Head Pressure Comp# Detected

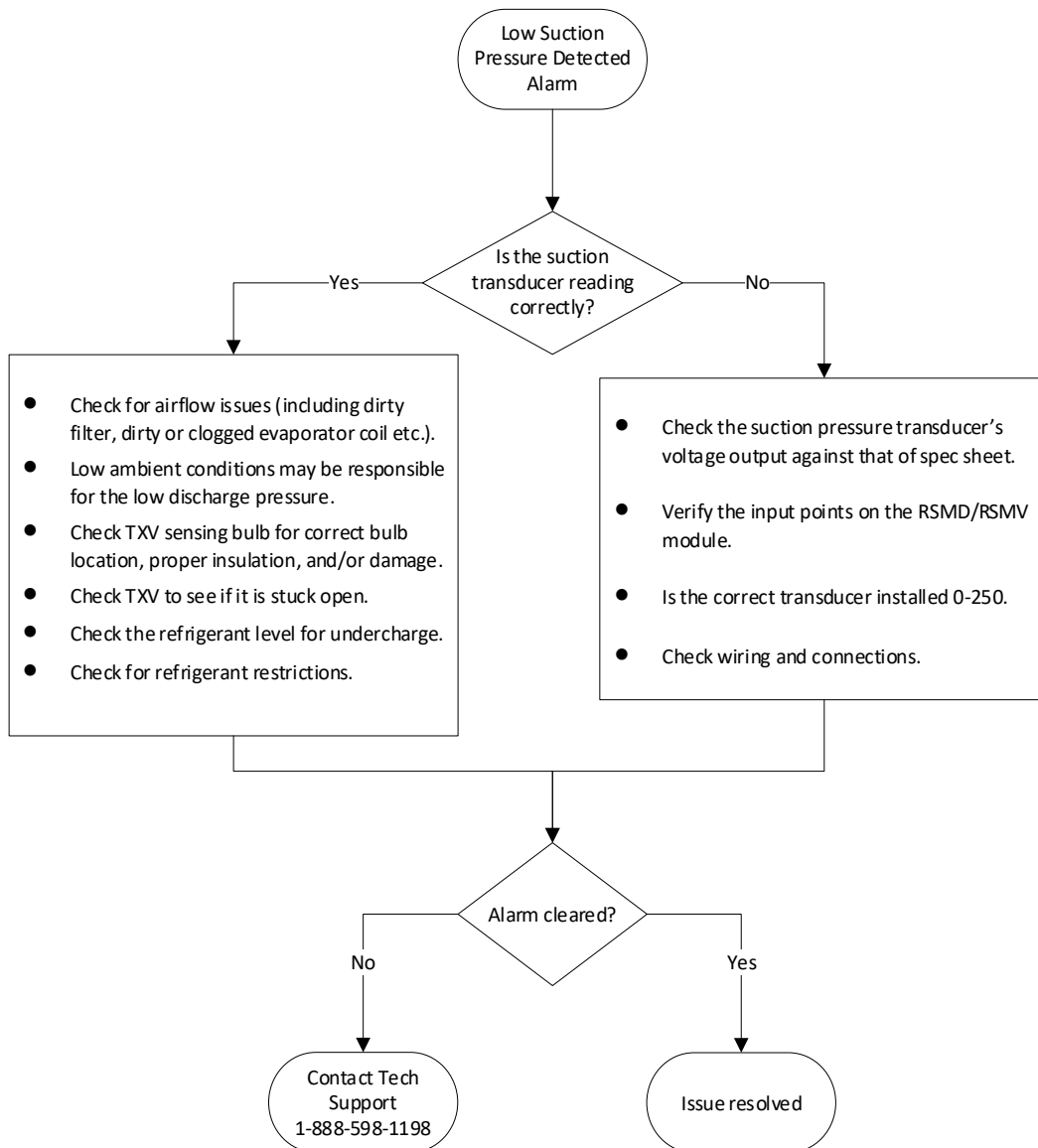
This indicates a High Head Pressure Alarm condition which is activated when the Head Pressure rises above 550 PSIG on a specific compressor. This will cause the condenser to go to 100%.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Low Suction Pressure Comp# Detected

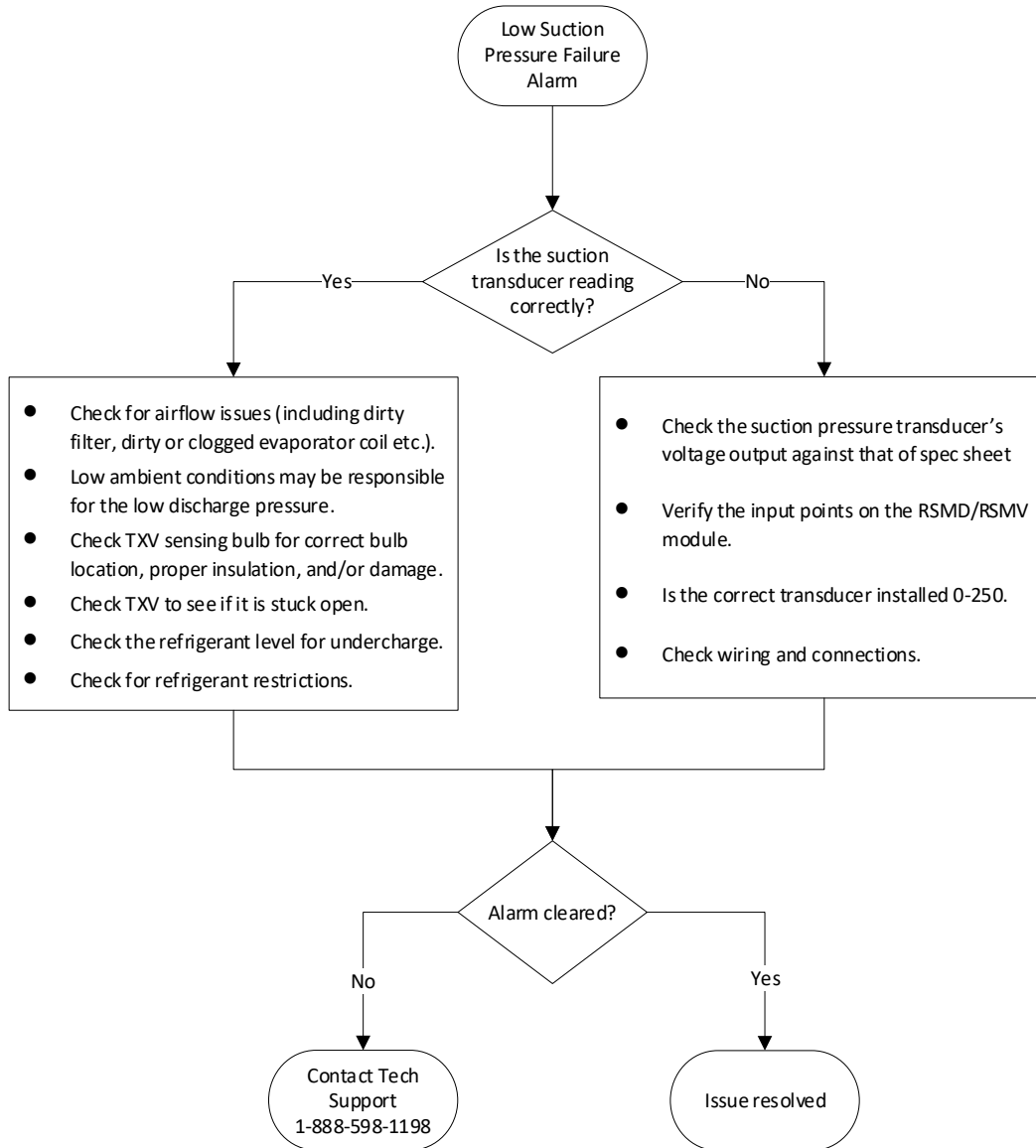
This alarm will occur if suction pressure falls below the low suction pressure setpoint for 20 seconds on a specific compressor. The system will try to protect by lowering compressor modulation percentage.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Low Suction Pressure Failure Comp#

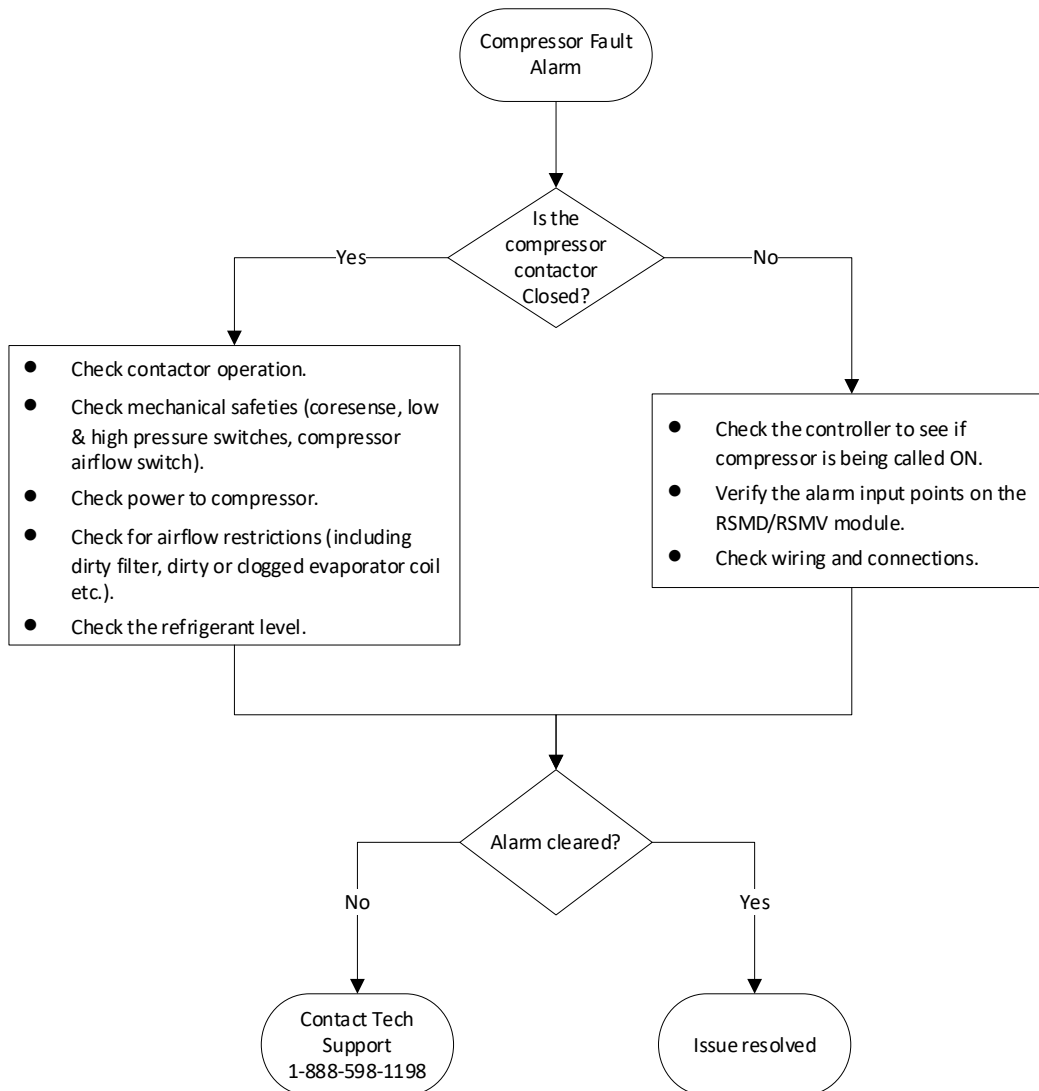
This alarm will occur if suction pressure stays below the low suction pressure setpoint for 1 minute or falls below 40 psi for 5 seconds. This alarm will shut down that compressor. Alarm will auto reset after the suction pressure has been above the low suction pressure setpoint for 5 minutes.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Compressor Fault Comp#

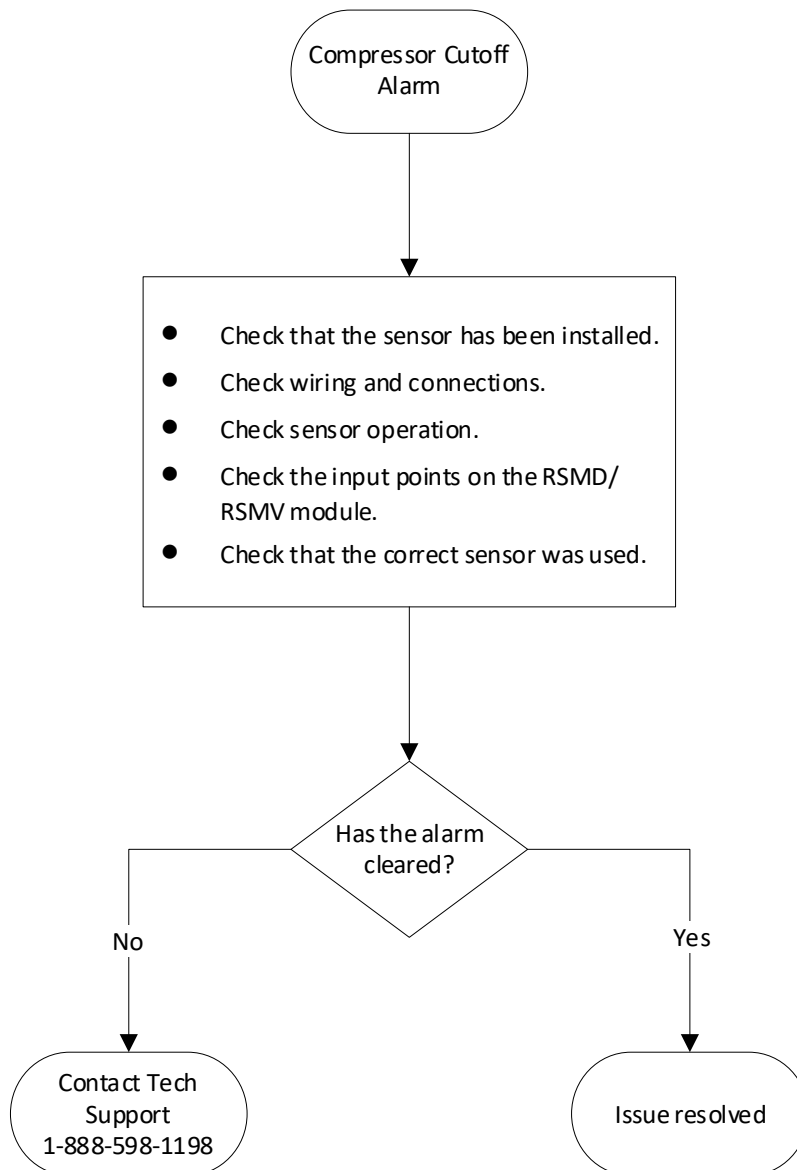
This alarm will occur if the compressor fails to run 45 seconds after the relay is activated or if the signal is lost after activation. This will cause an alarm and will shut down that compressor (relay). The system will retry after 5 minutes.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Compressor Cutoff Comp#

This alarm will occur if the discharge temp sensor measures more than 265 degrees F. This will cause an alarm and will shut down that compressor (relay). The system will can be restarted after 30 minutes.



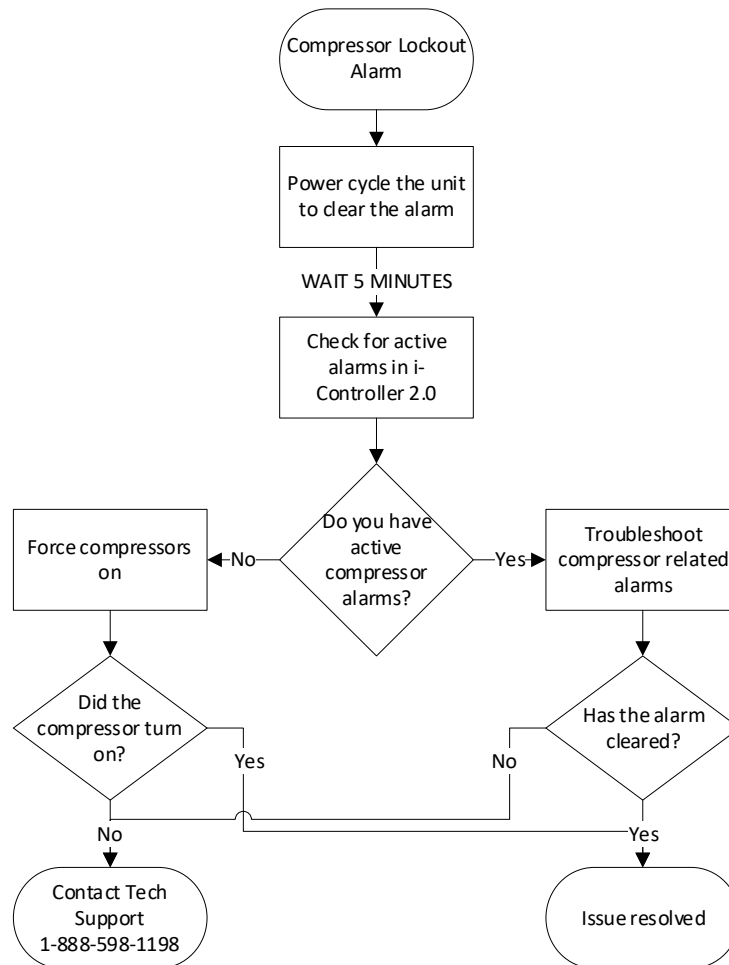
Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Compressor Lockout Comp#

Potential causes of a lockout include:

1. If active cutoff occurs 5 times within a 4-hour period, the compressor will be locked out.
2. If a circuit's Suction Pressure falls below the Low Suction Pressure Setpoint for longer than one minute twice within a two-hour window, the compressor on that circuit will be locked out. Manual reset or change of mode is required to return to normal operation.
3. If the Suction Pressure falls below the Unsafe Suction Setpoint for five seconds, that circuit's compressor will be locked out. Power will need to be cycled to restart the unit.
4. If the Leaving Water Temperature falls below setpoint, the last compressor will be locked out until the Leaving Water Temperature rises 6°F above setpoint.
5. The Leaving Water Temperature remains below setpoint for one minute or falls 3°F below setpoint. This alarm will be disabled when the leaving water temperature rises 12°F above the setpoint.

Must cycle power to RSMD/RSMV module to clear the alarm once issue has been corrected.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Low Superheat Detected Comp# (Only applies to RSM-V or RSM-Z)

This alarm will be activated when the Superheat is less than 4 degrees F for 2 minutes during normal operation or for 4 minutes during the first 10 minutes. The system will shut down and will retry after 5 minutes.

High Superheat Warning Comp# (Only applies to RSM-V or RSM-Z)

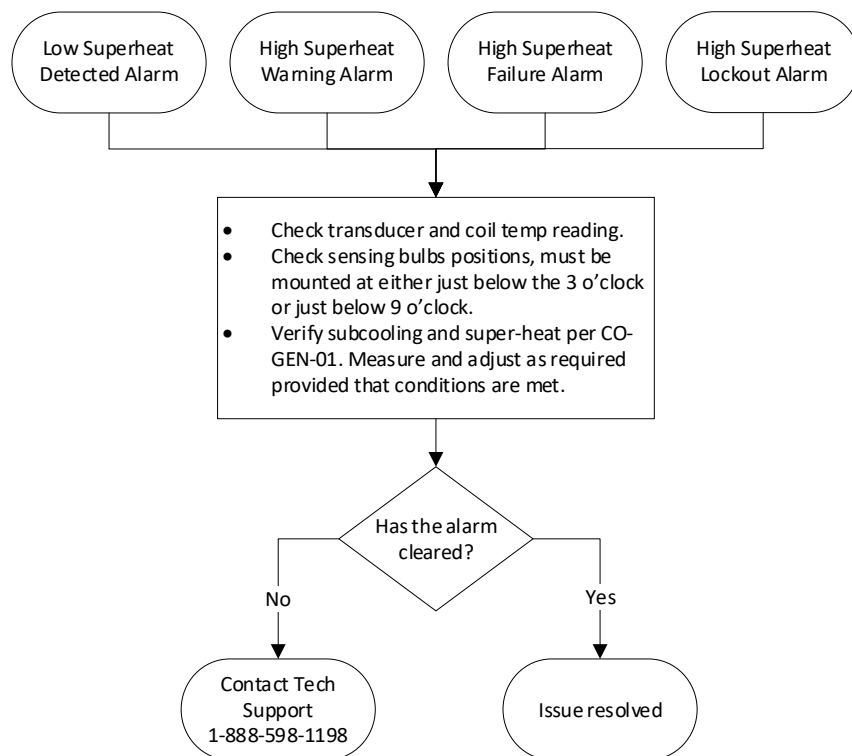
If superheat is above 25 degrees F for 2 minutes, this alarm will appear on the refrigeration module only.

High Superheat Failure Comp# (Only applies to RSM-V or RSM-Z)

If superheat is above 30 degrees F for 10 minutes, it will fail the compressor. It will retry after 5 minutes. If it fails twice in two hours, it will lock out the compressor.

High Superheat Lockout Comp# (Only applies to RSM-V or RSM-Z)

If the module fails on high superheat twice in 2 hours, it will lock out the compressor. Power will need to be cycled to restart unit.



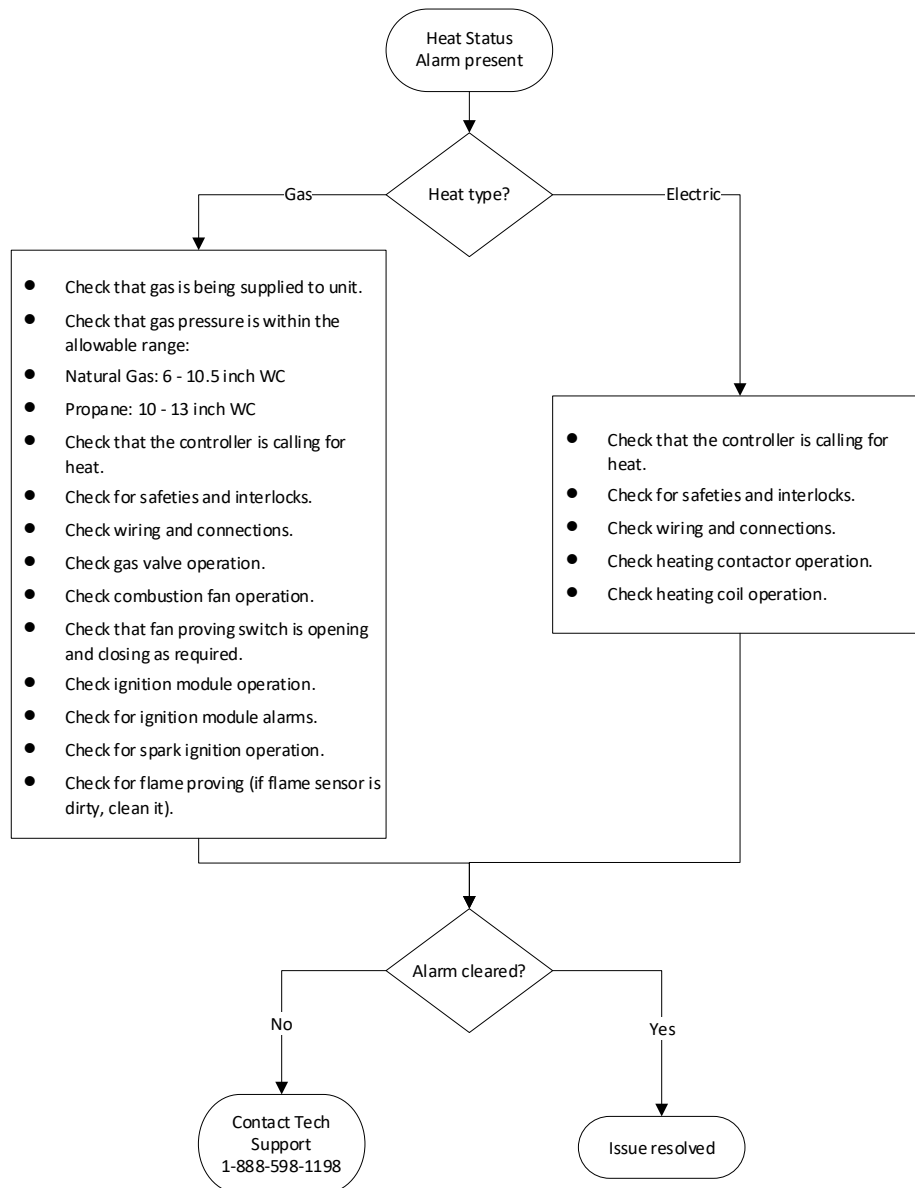
Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Heat Related Alarms

Heat Alarm

Alarm is activated if the supply temperature has not increased at least 5°F with at least 2-heat stages activated for 15 minutes. Alarm is automatically reset upon heat mode disable.

When a heat status alarm is generated, “**HEAT FAIL ALARM**” will be displayed on the **Alarms** screen.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Offline Devices Related Alarms

VCCX Offline

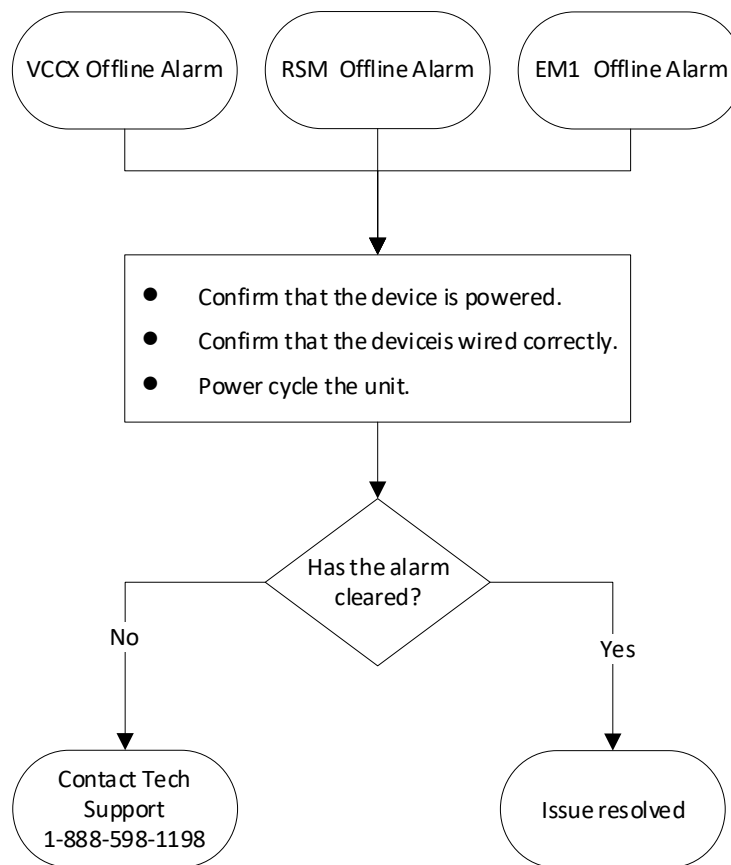
Alarm is active when the communication between the VCCX module and the i-Controller has failed. Alarm automatically resets upon reestablishment of communications.

RSM Offline

Alarm is active when the communication between the RSM module and the VCCX module has failed. Alarm will automatically reset upon reestablishment of communications.

EM1 Offline

Alarm is active when the communication between the EM1 module and the VCCX module has failed. Alarm will automatically reset upon reestablishment of communications.



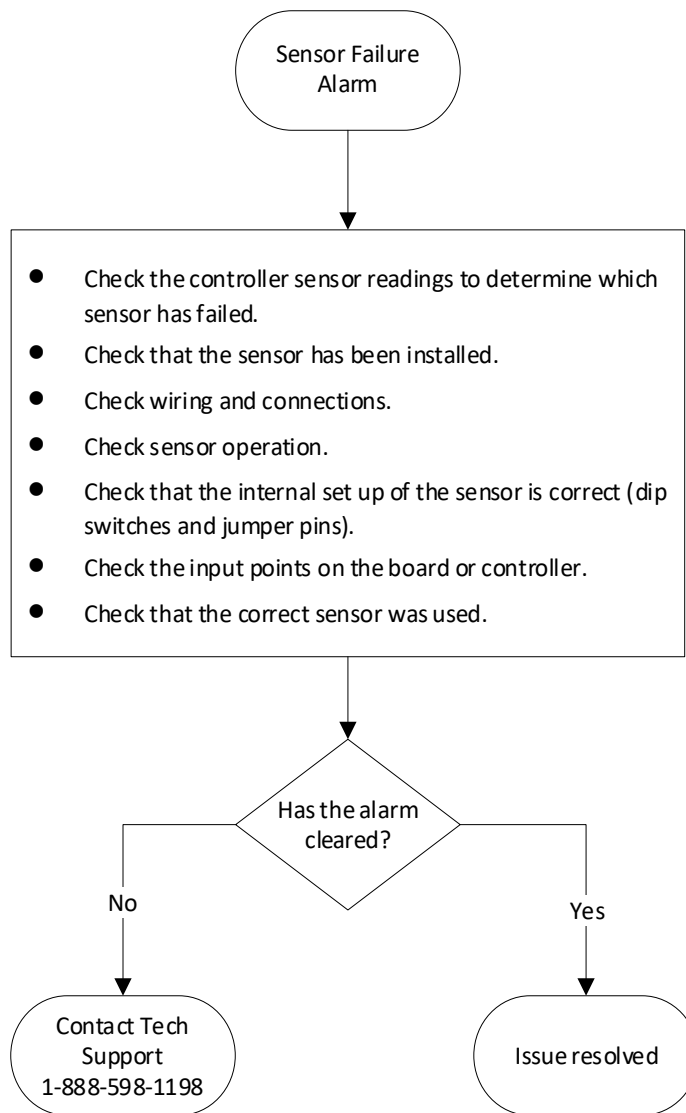
Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Sensor Failure Related Alarms

Sensor Failure Alarm

The sensor failure alarm is generated when one or more of the temperature, transducer, humidity, or CO2* sensors are faulty. When a sensor failure alarm is generated, “**xxxx SENSOR FAILED**” will be displayed on the alarm screen.

When the failed sensor condition has been corrected, the sensor failure alarm will automatically reset.

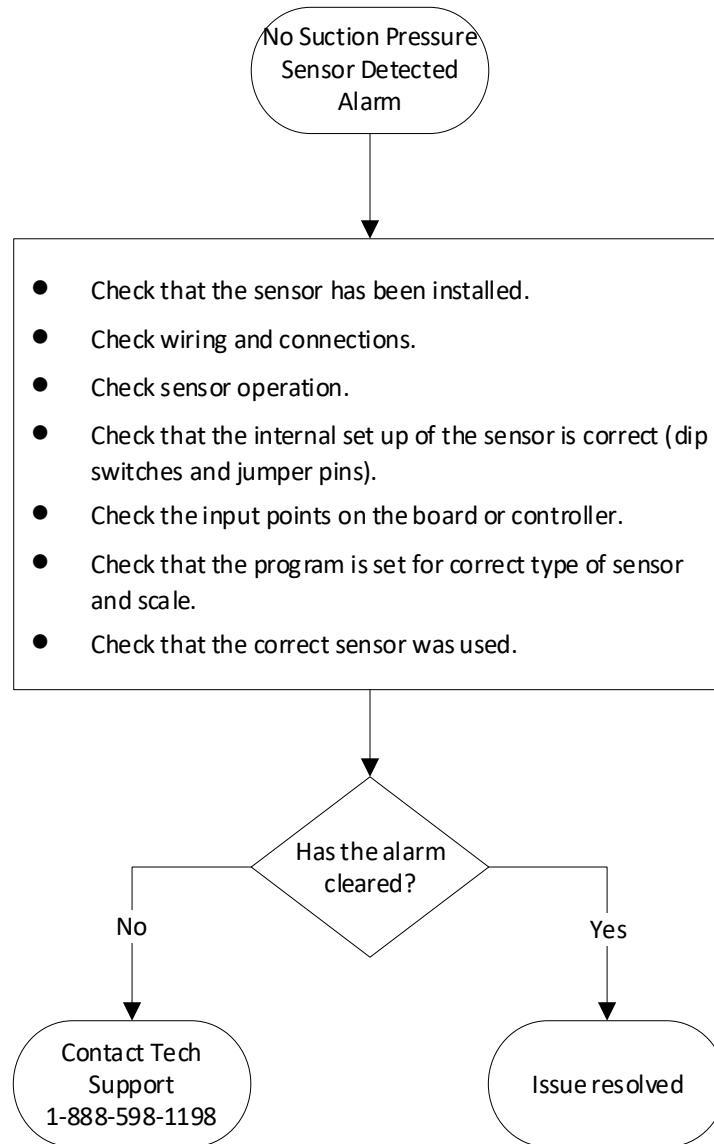


Title:

i-Controller 2.0 REV.300 Alarms (Troubleshooting)

No Suction Pressure Sensor Detected Comp#

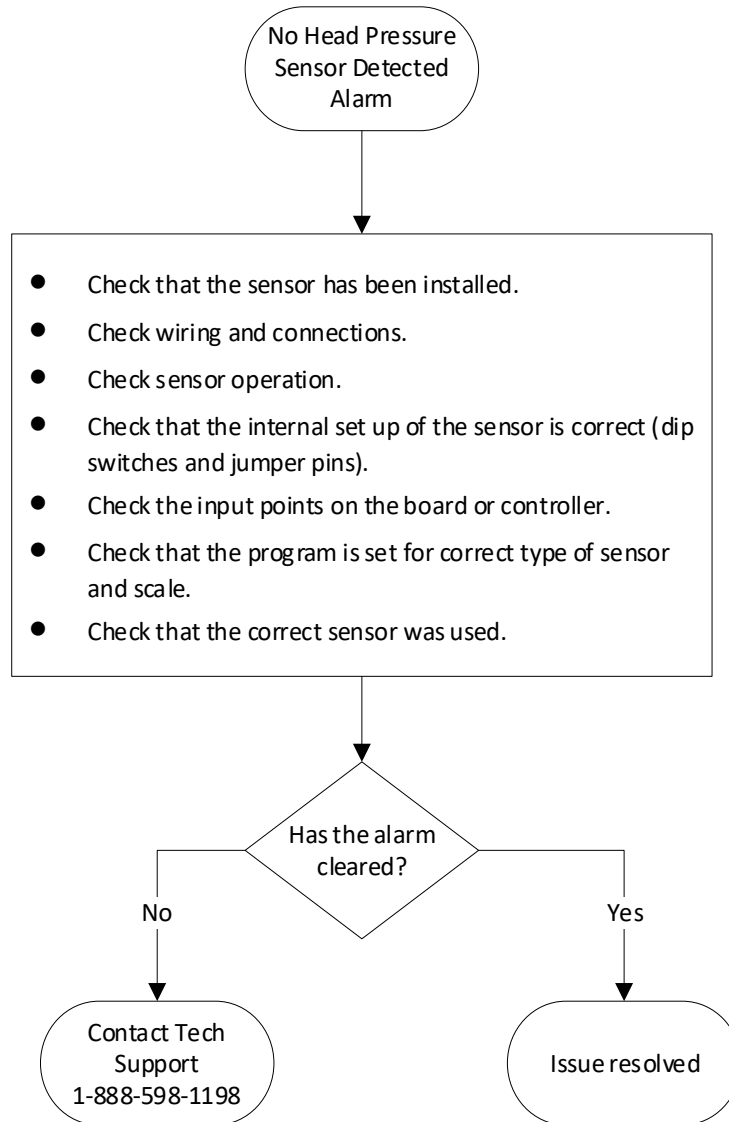
This alarm indicates the Suction Pressure Sensor is not detected by the system. There is no compressor failure from this alarm. The failure will be unsafe suction pressure.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

No Head Pressure Sensor Detected Comp#

This alarm indicates the Head Pressure Sensor is not detected by the system. This will cause the condenser fan/valve to go to 100%.

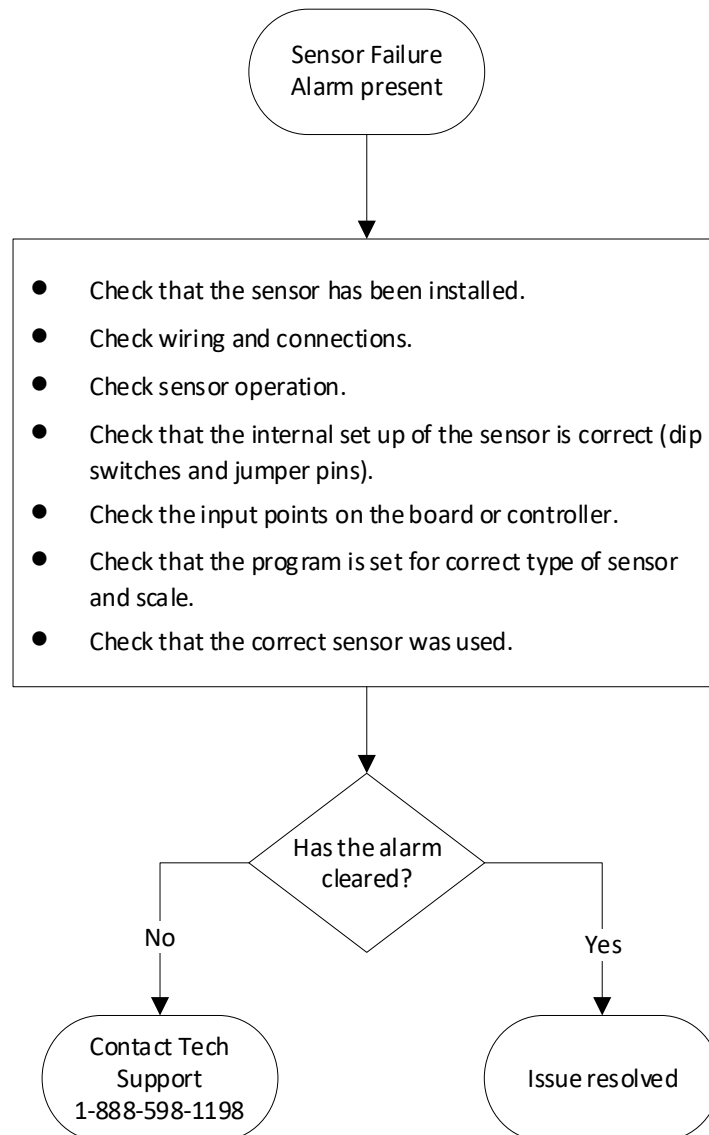


Title:

i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Compressor Bad Temperature Comp#

This alarm will occur if the discharge temp sensor measures less than -40 degrees F or more than 356 degrees F. This will cause an alarm and will shut down the compressor (relay). The system will retry after 5 minutes.

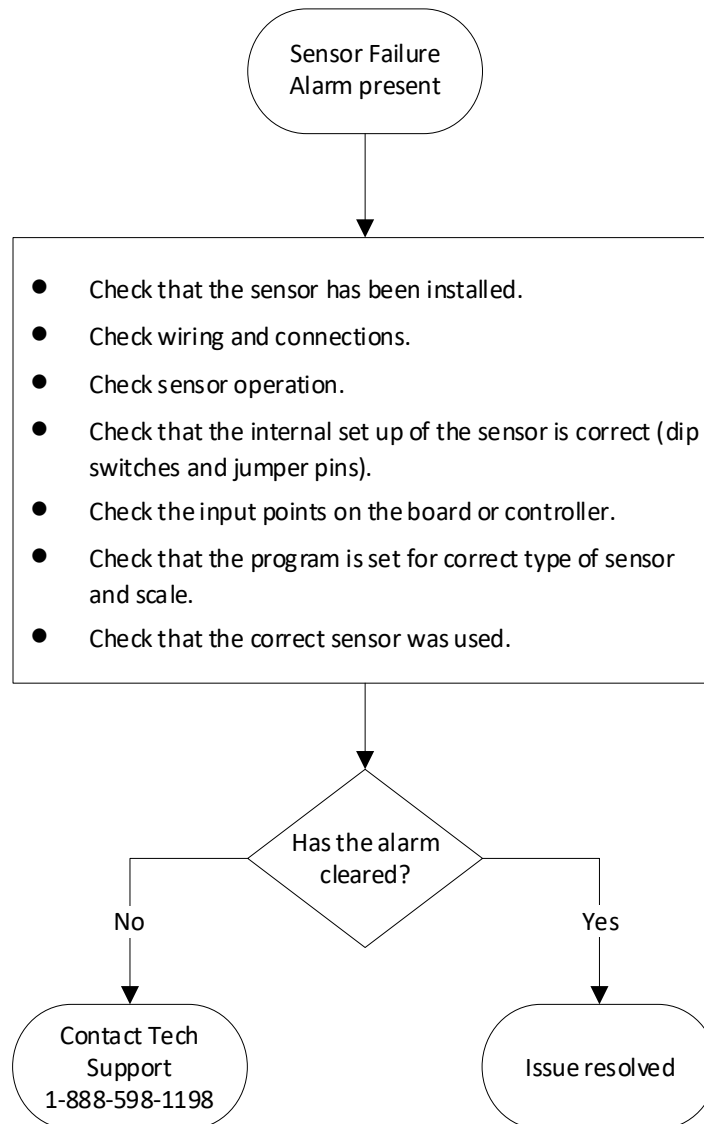


Title:

i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Supply Temperature Failure

Upon detection of an open or shorted supply temperature sensor the unit will be completely shut down and an alarm will be generated. Alarm will automatically reset once the sensor failure is repaired.



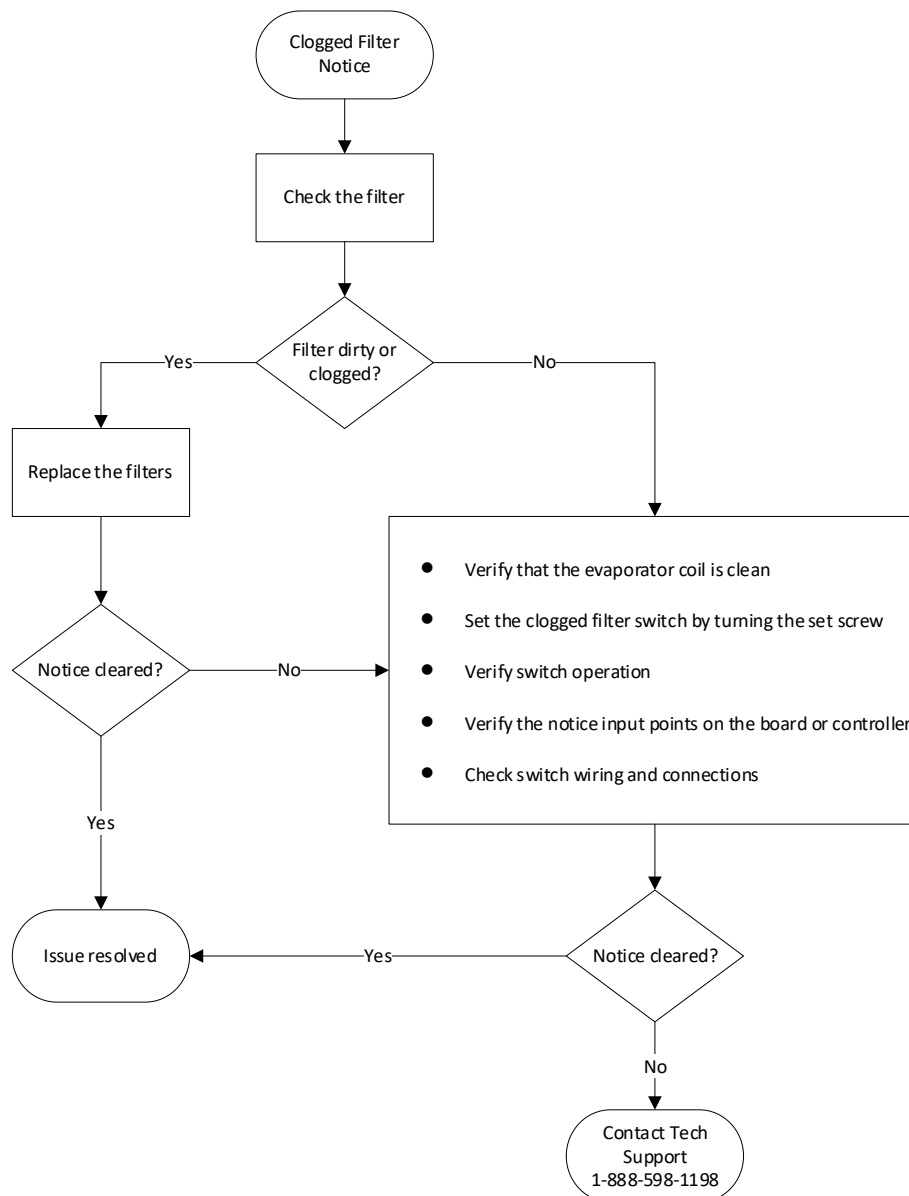
Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Notice Related Alarms

Clogged Filter Notice

The clogged filter notice is generated when the filters in the unit become blocked and possibly need to be replaced. When a clogged filter notice is generated, “**Clogged Filter Alarm**” will display on the **Alarms** screen.

This notice is generated by a switch that senses a pressure drop across the filter bank and cooling coil. The sensor’s range of adjustment is 0.17 to 5.0 in. W.C. with contact closure on rise. The switch is mounted in the fan compartment with terminal connections in the low voltage control section. Normally open dry contacts are provided for clogged filter indication.

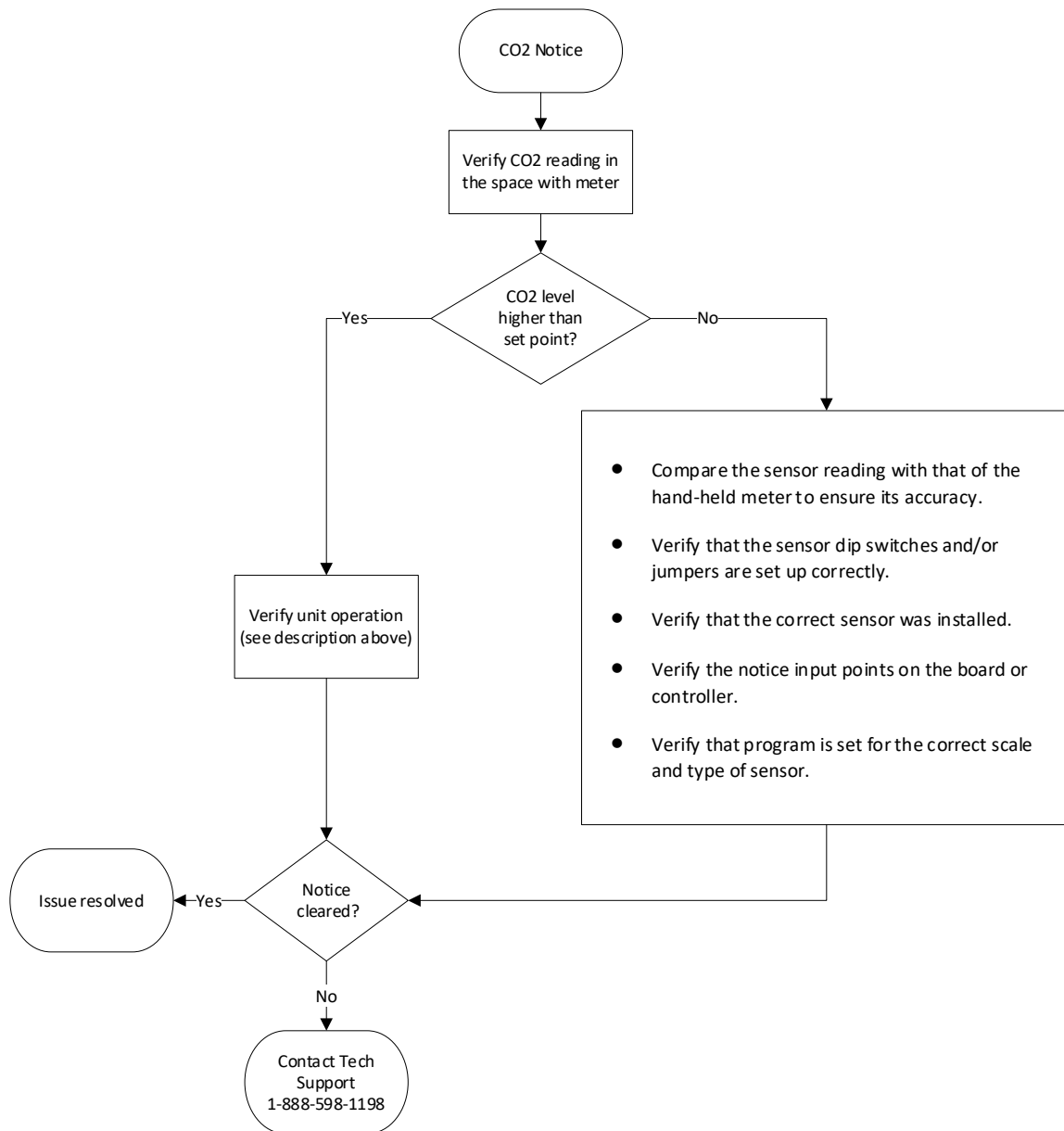


Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

CO₂ Notice (if equipped)

The CO₂ notice is generated when the CO₂ level in the space is too high. When a high CO₂ level is detected, “**High CO₂ Level Alarm**” will be displayed on the **Alarms** screen.

This notice is generated when the CO₂ sensor, located in the space or return air stream, exceeds the specified ppm limit, typically 1,200 ppm.

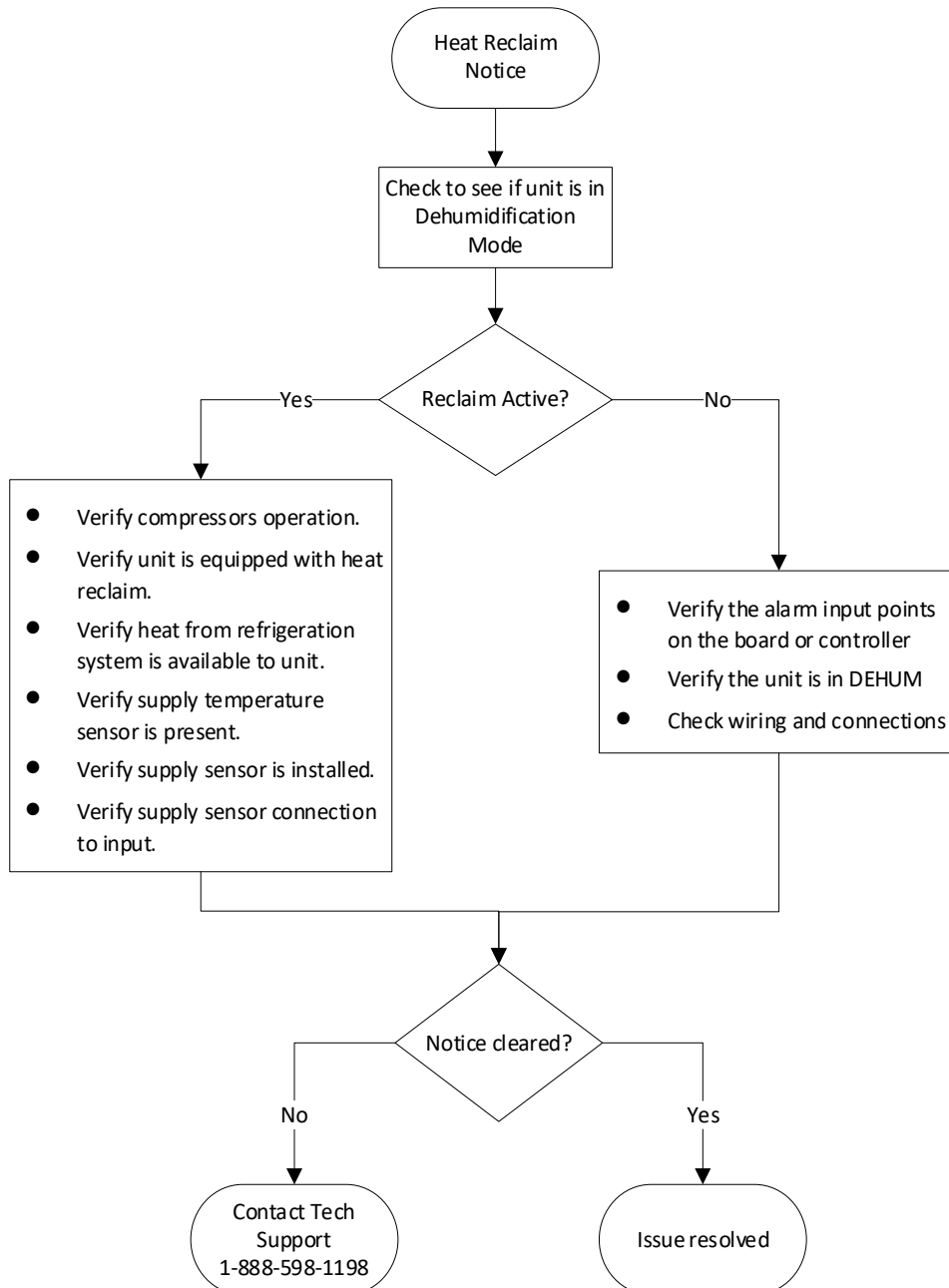


Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Heat Reclaim Notice (if equipped)

A heat reclaim or reheat notice is generated when the supply temperature has not increased at least 5°F after heat reclaim or reheat has been enabled for 15-minutes. When a heat reclaim notice is generated, “**Rec/Reh Alarm**” will be displayed on the **Alarms** screen.

When heat reclaim has been disabled, the heat reclaim notice will automatically reset.

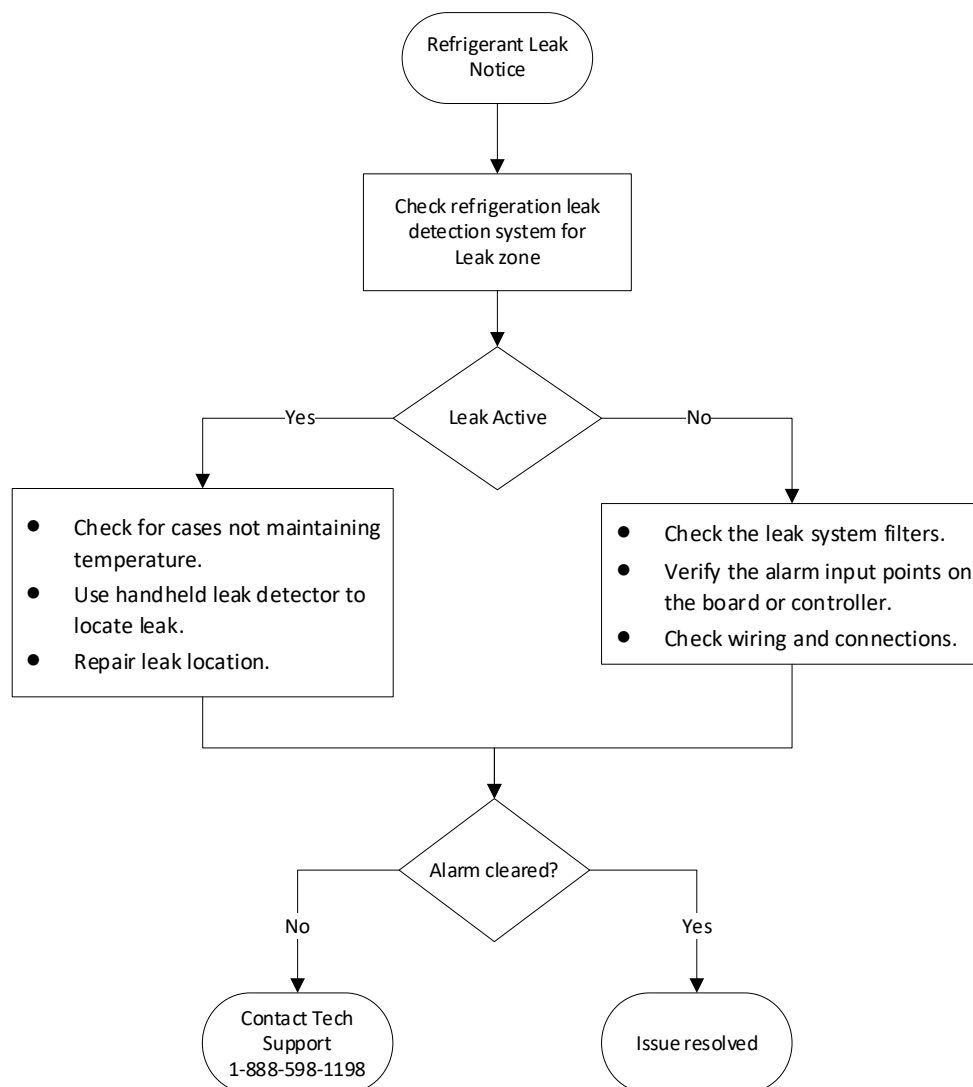


Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

Refrigerant Leak Notice (if equipped)

The refrigerant leak notice is generated if a refrigeration leak in the space is detected by the leak detection system and the leak signal via digital closure is sent to the i-Controller. Once the signal is received by the i-Controller, the OAD of the FLō unit will open to 100% to flush the space with fresh air. When a refrigerant leak notice is generated, “**Refrigerant Leak Alarm**” will be displayed on the **Alarms** screen.



When the refrigerant leak is no longer signaled by the refrigeration system and the digital input is opened, the i-Controller and OAD will return to normal operation and the refrigerant leak notice will automatically reset.



Title: i-Controller 2.0 REV.300 Alarms (Troubleshooting)

i-Controller 2.0 Alarm Reset Instructions:

To Reset Alarms:

1. From any screen, press the 'Alarm' button 
2. Use the 'UP' / 'DOWN' arrows to scroll to the 'Alarms Reset' screen.
3. Press and hold the 'Alarm' button  for three seconds to reset alarms. Active alarms will only reset if the alarm condition is resolved.
4. Press 'Escape' to return to the Overview screen.

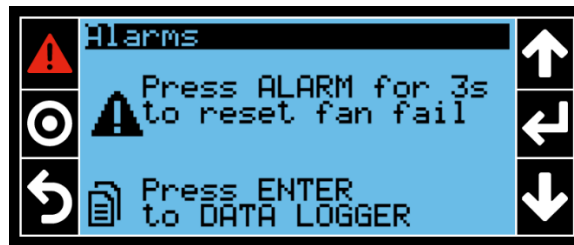


Figure 1. Alarms Reset Screen