

Servicing Midea Heat Pumps



Introduction

Due to the sophisticated nature of the Midea heat pumps, system diagnosis is made easier with a range of available error codes that will display on the inbuilt screen. Chances are you will be presented with one of these error codes on arrival to site. We suggest at initial contact with the customer that they are asked the on-screen error code so that where possible, you can be prepared with the appropriate spare part and avoid the need for multiple service calls.

The following pages will take you step by step through each of the main error codes and the recommended procedure to confirm the error and then address the specific concern.

Please note when an error occurs, the unit will more than likely have switched to E-heater so the home continues to receive hot water.

If a serious error has occurred the complete unit will simply not be operable.

If on arrival to site the error code is accompanied by a buzzing sound this can be turned off by pressing the cancel button for 1 sec. The alarm icon on screen should continue to flash identifying the error still exists.

Click specific error below for additional information

Troubleshooting & servicing Midea heat pumps must be completed by qualified & competent persons

280: Removing Upper Casing

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Start by removing the rain shield (where applicable) by removing the fasteners at the four tab locations and then lifting the shield up and putting aside.



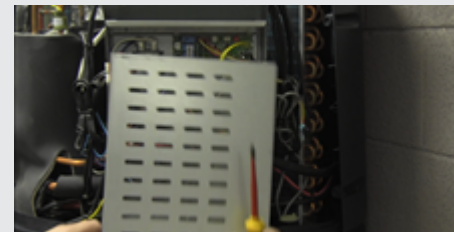
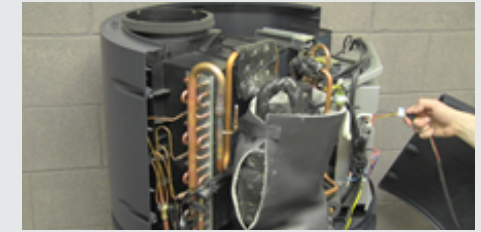
Then proceed to remove the top plate by removing the additional 4 fasteners and again simply lift up & put aside.



Then release the four fasteners, two either side holding the front casing on.



Once the screws are removed carefully pull the front casing away enough to access the controller connector and release. Then put the front casing aside.



At this time it is also recommended to open the electrical compartment which is located directly behind the control panel. To access simply remove the compartment panel by removing the two lower screws.



Then simply slide the panel down and then pull away to reveal the PCB and other electrical connections.

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May take a few seconds before
opening in browser

170: Removing Upper Casing

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Remove the screw from the top cover (on the top face at the rear), then rotate the top cover counter-clockwise to release



Then lift the top cover up and put aside. Then release the four fasteners, two either side holding the front casing on.



Once the screws are removed carefully pull the front casing away enough to access the controller connector and release. Then put the front casing aside.



At this time it is also recommended to open the electrical compartment which is located directly behind the control panel. To access simply remove the compartment panel by removing the two lower screws & two upper screws.

Then simply pull the panel away to reveal the PCB and other electrical connections.

280: Error Code - E0 (T5U Sensor)

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If the controller is indicating an E0 error, then there is an issue with the upper tank sensor. To access the tank sensors, start by removing the front fascia at the front of the unit. Simply grip the fascia from either side and firmly pull the whole piece away from the tank to release the three holding magnets from the tank body. Then put the fascia aside.



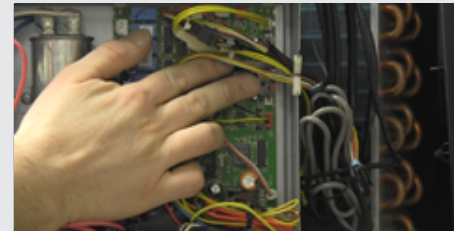
Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



If you are presented with an error code of E0, then this relates to the upper tank sensor (referred to as Sensor T5U). To check the correct operation of the upper tank sensor, locate the sensor behind the foam insulation.



Simply release the corresponding connector and test for the appropriate resistance using a multimeter. The resistance reading will vary depending on the temperature within the tank so you will need to confirm the correct reading by referring to the resistance chart. (Click to open chart). If you are receiving a suitable reading, reconnect the connector and ensure this is securely in place.



If you are not receiving a suitable reading, access the PCB board and check the corresponding connector is securely connected to the PCB in socket T5U. Once the connector has been checked, retest resistance. If this continues to provide an unsatisfactory reading, remove the sensor by disconnecting the corresponding lead & releasing the nut holding the sensor in place. Remove the sensor off the stud and replace with a new sensor and lead.

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280: Error Code - E1 (T5L Sensor)

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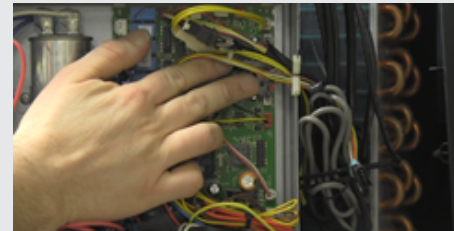
If the controller is indicating an error of E1, then there is an issue with the lower tank sensor. To access the tank sensors, start by removing the front fascia at the front of the unit. Simply grip the fascia from either side and firmly pull the whole piece away from the tank to release the three holding magnets from the tank body. Then put the fascia aside.



Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



To check the correct operation of the lower tank sensor, simply release the corresponding connector and test for the appropriate resistance using a multimeter. The resistance reading will vary depending on the temperature within the tank so you will need to confirm the correct reading by referring to the resistance chart (Click to Open Chart) If you are receiving the correct reading, reconnect the connector and ensure this is securely in place.



If you are not receiving a suitable reading, access the PCB board and check the corresponding connector is securely connected to the PCB in socket T5L. Once the connector has been checked, retest resistance.



If this continues to provide an unsatisfactory reading, remove the sensor by turning counter clockwise and pulling directly away from the tank.

Be careful as probe will be covered in heat paste.

Then simply replace with new sensor, screw securely back into place and reconnect to the mating connector. After a sensor has been replaced or electrical connectors have been resealed, restart the unit and check that the error has cleared.

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170: Error Code - E1 (T5 Sensor)

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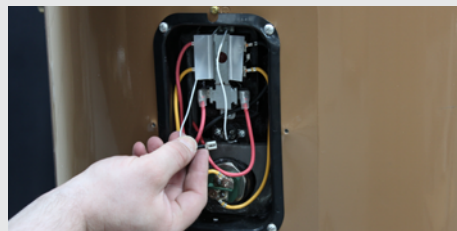
280L



If the controller is indicating an error of E1, then there is an issue with the tank sensor. To access the tank sensors, start by removing the front fascia at the front of the unit. Simply grip the fascia from either side and firmly lift vertically to release the pins at the top and the holding bracket at the bottom, then pull the whole away from the tank body. Then put the fascia aside.



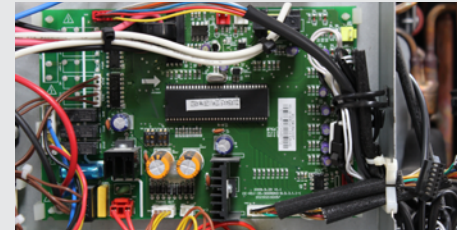
Remove the electrical cover by removing the array of screws and put cover and fasteners aside.



Then remove the foam insulation and put aside.

To check the correct operation of the tank sensor, simply release the corresponding connector and test for the appropriate resistance using a multimeter.

The resistance reading will vary depending on the temperature within the tank so you will need to confirm the correct reading by referring to the resistance chart (Click to Open Chart) If you are receiving the correct reading, reconnect the connector and ensure this is securely in place.



If you are not receiving a suitable reading, access the PCB board and check the corresponding connector is securely connected to the PCB in socket T5. Once the connector has been checked, retest resistance.



If this continues to provide an unsatisfactory reading, remove the sensor by removing both electrical connectors and removing the two screws. Then simply removed the sensor and bracket.

Be careful as rear of the sensor will be covered in heat paste.

Then simply replace with new sensor, place bracket over the top and screw securely back into place before reconnecting the two electrical connectors. After a sensor has been replaced or electrical connectors have been reseated, restart the unit and check that the error has cleared.

280: Error Code - E2 (Communication Error)

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If the controller is indicating an error of E2, then there is an issue with the connection between the display PCB and the mother PCB.

To access both PCBs we need to remove the upper front casing (refer to separate instruction).



Check the connection between the display PCB and the mother PCB for any loose connections or cable damage.

If all connections and cables appear in order then the display PCB is potentially faulty and should be replaced.

170: Error Code - E2 (Communication Error)

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If the controller is indicating an error of E2, then there is an issue with the connection between the display PCB and the mother PCB.

To access both PCBs we need to remove the upper front casing (refer to separate instruction).



Check the connection between the display PCB and the mother PCB for any loose connections or cable damage.

If all connections and cables appear in order then the display PCB is potentially faulty and should be replaced.

280: Error Code - E4 (Evaporator Temp Sensor - T3 Sensor)

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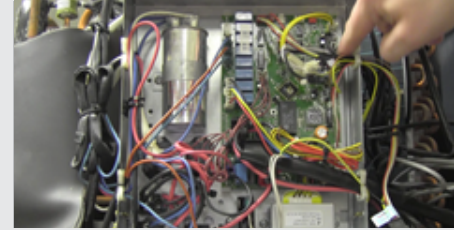
If the controller indicates an E4 error code, then there is an issue with the Evaporator Temperature Sensor (T3 Sensor).
To access the evaporator temp sensor, we need to remove the upper front casing (refer to separate instruction).
The Evaporative Temp Sensor is located on the left hand side of the evaporator



To access the sensor, cut the cable tie and carefully remove the insulation.



Remove the sensor from its container and inspect for any visual damage and check that the corresponding connector to the PCB board is securely seated.



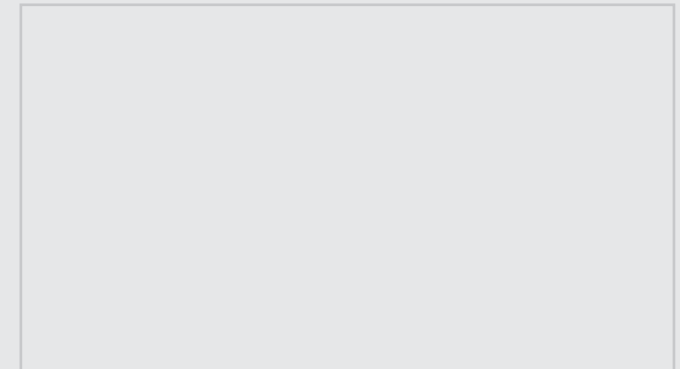
If it appears the sensor needs replacing, disconnect the T3 connector at the PCB location and feed the cable back behind the electrical compartment and the compressor to the sensor location.

Disconnect the sensor from it's container and remove.
Replace the sensor in the reverse manner, by reinserting the sensor back into it's container and then rewiring the lead back to the PCB location and reconnecting the connector to the T3 socket.

Ensure the insulation is refitted over the sensor and that the sensor, insulation and cable are all appropriately secured with cable ties.

Once sensor and the lead are fixed back into place, simply restart the unit and see if the error has cleared.

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170: Error Code - E4 (Evaporator Temp Sensor - T3 Sensor)

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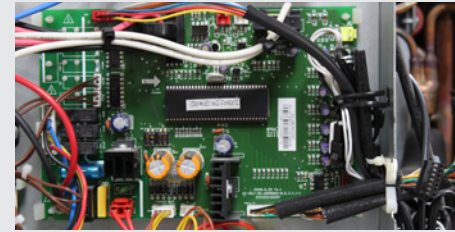
If the controller indicates an E4 error code, then there is an issue with the Evaporator Temperature Sensor (T3 Sensor). To access the evaporator temp sensor, we need to remove the upper front casing (refer to separate instruction).



The Evaporative Temp Sensor is located on the right hand side of the evaporator.



To access the sensor, cut the cable tie. Remove the sensor from its container and inspect for any visual damage and check that the corresponding connector to the PCB board is securely seated.



If it appears the sensor needs replacing, disconnect the T3 connector at the PCB location and feed the cable through to the sensor location.

Disconnect the sensor from its container and remove. Replace the sensor in the reverse manner, by reinserting the sensor back into its container and then rewiring the lead back to the PCB location and reconnecting the connector to the T3 socket.

Ensure the cable is appropriately secured with cable ties.

Once sensor and the lead are fixed back into place, simply restart the unit and see if the error has cleared.

280: Error Code - E5 (Ambient Temperature Sensor - T4 Sensor)

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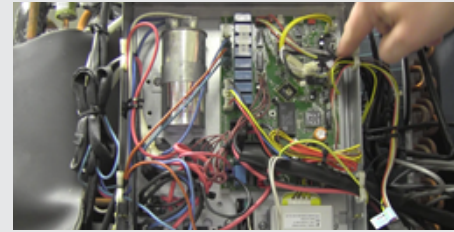
If the controller indicates an E5 error code, then there is an issue with the Ambient Temperature Sensor (T4 Sensor). To access the ambient temperature sensor, we need to remove the upper front casing (refer to separate instruction).



The Ambient Temperature sensor is located on the right hand side fitted to the face of the evaporator.



To remove sensor, simply grip the plastic holder and pull directly out from the evaporator fins. Inspect for any visual damage and check that the corresponding connector is securely seated in the T4 socket on the PCB.

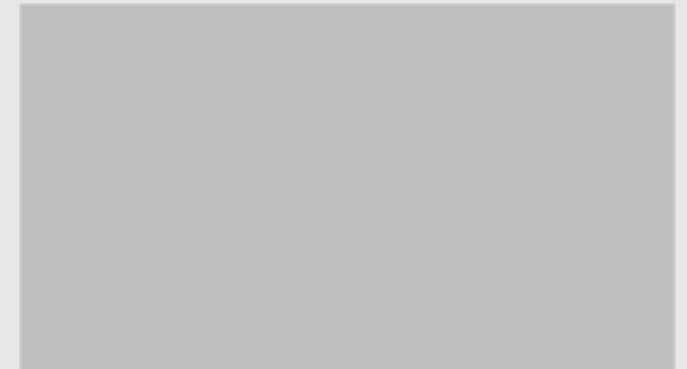


Once a visual inspection is deemed OK and the connector has been reseated, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from the evaporator, and tracing its cable back to the PCB and disconnect from socket T4.

Once sensor and the lead are fixed back into place, simply restart the unit and see if the error has cleared.

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170: Error Code - E5 (Ambient Temperature Sensor - T4 Sensor)

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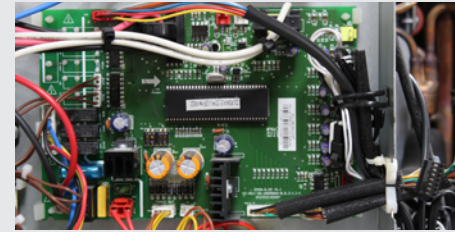
If the controller indicates an E5 error code, then there is an issue with the Ambient Temperature Sensor (T4 Sensor). To access the ambient temperature sensor, we need to remove the upper front casing (refer to separate instruction).



The Ambient Temperature sensor is located on the left hand side fitted to the body of the heat pump.



To remove sensor, simply unwind the holding clip / wire until the sensor is clear. Inspect for any visual damage and check that the corresponding connector is securely seated in the T4 socket on the PCB.



Once a visual inspection is deemed OK and the connector has been reseated, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from its clip, and trace its cable back to the PCB (behind the main electrical compartment and disconnect from socket T4).

Once sensor and the lead are fixed back into place, simply restart the unit and see if the error has cleared.

280: Error Code - E6 (Compressor Discharge Temperature Sensor - TP Sensor)

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If the controller is indicating an E6 error code, then there is an issue with the Compressor Discharge Temperature Sensor (TP Sensor). To access the Compressor Discharge temp sensor, we need to remove the upper front casing (refer to separate instruction).



The Compressor Discharge Temp Sensor is located above the compressor at the compressors outlet pipe



To access the sensor, cut the cable tie and carefully remove the insulation.



Continue by removing the cable tie holding the sensor in place and then remove the sensor. Inspect for any visual damage to the sensor and its lead and check that the corresponding connector is securely seated in the TP socket on the PCB.

Once a visual inspection is deemed OK and the connector has been reseated, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from its holder and tracing its cable back to the PCB and disconnect from socket labelled TP.
Note you will need to cut some cable ties to remove the cable, it is advised to re-cable tie all cables in a similar fashion once sensor and cable have been replaced.

Once sensor and the lead the fixed back into place, simply restart the unit and see if the error has cleared.



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170: Error Code - E6 (Compressor Discharge Temperature Sensor - TP Sensor)

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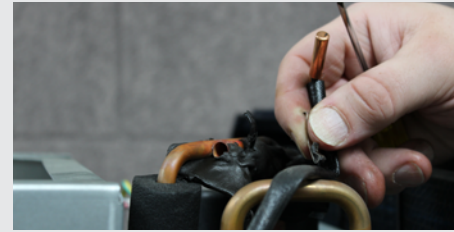
If the controller is indicating an E6 error code, then there is an issue with the Compressor Discharge Temperature Sensor (TP Sensor). To access the Compressor Discharge temp sensor, we need to remove the upper front casing (refer to separate instruction).



The Compressor Discharge Temp Sensor is located above the compressor at the compressors outlet pipe



To access the sensor, cut the cable tie and carefully remove the insulation.



Continue by removing the cable tie holding the sensor in place and then remove the sensor. Inspect for any visual damage to the sensor and its lead and check that the corresponding connector is securely seated in the TP socket on the PCB.

Once a visual inspection is deemed OK and the connector has been reseated, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from its holder and tracing its cable back to the PCB and disconnect from socket labelled TP.

Note you will need to cut some cable ties to remove the cable, it is advised to re-cable tie all cables in a similar fashion once sensor and cable have been replaced.

Once sensor and the lead the fixed back into place, simply restart the unit and see if the error has cleared.

280: Error Code - E8 (Electric Leakage Error) 1 of 2

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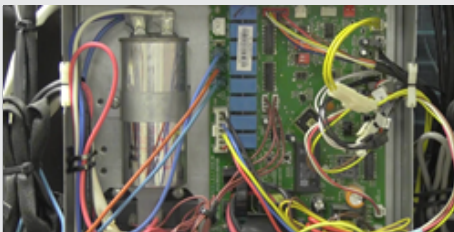
If the controller is indicating an E8 error code, then there is an electrical leak occurring in the unit. Specifically the PCB's current induction coil has detected a current difference between Live (active) & Neutral which is greater than 14mA. To narrow down where the issue is occurring, restart the machine and check when the E8 error is presenting on the controller.

- If the unit goes into the E8 error code on start-up then there is likely an issue within the electrical compartment or there is an issue with the incoming power.
- If the unit goes into the E8 error code approx. 3 minutes after start-up, then the issue is likely in relation to the compressor.
- If the error code doesn't reappear after four or so minutes, activate the E-heater, by pressing the "E-heater" button on the controller and see if the unit presents with the E8 error. If the error presents once put into E-heater mode then the issue lies with the element.



Once this is narrowed down, proceed to remove the upper casing (refer to the separate instruction) in preparation.

E8 Error on Start up



If the E8 error is presenting on start up, then we need to inspect a few items within the electrical compartment. Firstly check that all connectors are securely seated in their corresponding socket. Perform an inspection across the electrical compartment checking for any damage or signs of moisture.

If all appears to be in working order then the PCB has more than likely failed.

Proceed to replace the PCB with a new one. As this time we suggest you take a photo of the electrical layout for reference.

To replace, leave all connections in position and remove the current board by releasing the



plastic clips at the top and bottom location and move to the side, refit the new board into position and then proceed to disconnect and then reconnect each connector one by one to ensure that each one is connected to the correct location.

Refit the electrical cover and then refit the upper casing and restart the unit and check that the error has cleared.

E8 Error 3 minutes after start up



Now if the error presents approx. 3 mins after start up then we need to check over the compressor.

Locate the compressor and its electrical connections cover. Remove the holding nut and then the cover to reveal the electrical connections. Test the connections and resolve where possible. If the compressor is deemed to have failed contact Chromagen for further advice.

280: Error Code - E8 (Electric Leakage Error) 2 of 2

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E8 Error after E-heater is activated

Now if the E8 error presents once the unit enters E-heater mode, we need to check the element. Proceed to access the element compartment located in the lower compartment under the front fascia cover. Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



With power activated to the unit, carefully test the element is receiving 240 Volts with a multimeter by placing each of the prongs on the two terminals. If 240 volts is evident then there appears to be an issue with the element. If this is the case isolate power to unit and proceed to replace the element.

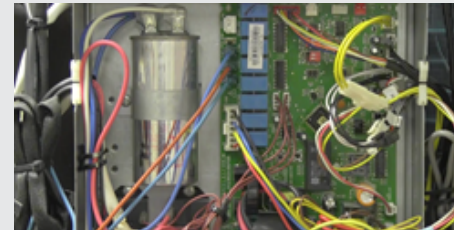


If 240 volts is not evident, we need to test all the corresponding connections back to the PCB to locate where the error exists.

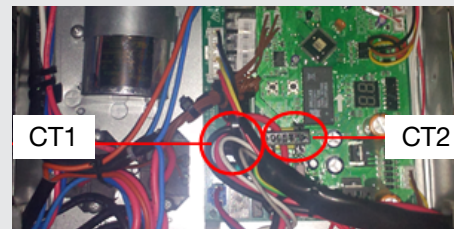
So firstly we need remove the upper tank compartment. Then check that the manual thermostat hasn't been tripped. If tripped, the red button will protrude past the thermostat and will need to be manually reset by carefully pushing the red button.



If the manual thermostat has not been tripped, then we need to proceed to test the automatic thermostat for 240 volt supply. Again with power activated to the unit, carefully test the automatic thermostat. If the automatic thermostat is showing 240 volt supply, then the issue lies between the automatic thermostat and the element. If the automatic thermostat shows no voltage then continue to test up the line, checking the manual thermostat for correct voltage.



If there is still no voltage at the manual thermostat then check the UE connector within the electrical compartment is providing power.



If E8 turn up straight away after HP power reset, take the power cable off from the current induction coil CT1 (do not let CT1 coil detect any current), if it still reports E8, then replace PCB. If it doesn't report E8, it means the PCB is fine.

170: Error Code - E8 (Electric Leakage Error) 1 of 2

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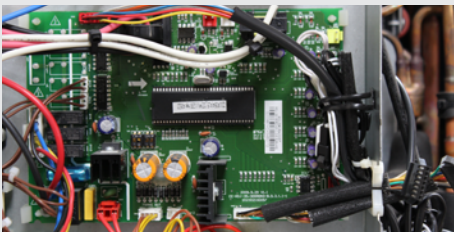
If the controller is indicating an E8 error code, then there is an electrical leak occurring in the unit. To narrow down where the issue is occurring, restart the machine and check when the E8 error is presenting on the controller.

- If the unit goes into the E8 error code on start-up then there is likely an issue within the electrical compartment or there is an issue with the incoming power.
- If the unit goes into the E8 error code approx. 3 minutes after start-up, then the issue is likely in relation to the compressor.
- If the error code doesn't reappear after four or so minutes, activate the E-heater, by pressing the "E-heater" button on the controller and see if the unit presents with the E8 error. If the error presents once put into E-heater mode then the issue lies with the element.



Once this is narrowed down, proceed to remove the upper casing (refer to the separate instruction) in preparation.

E8 Error on Start up



If the E8 error is presenting on start up, then we need to inspect a few items within the electrical compartment. Firstly check that all connectors are securely seated in their corresponding socket. Perform an inspection across the electrical compartment checking for any damage or signs of moisture.

If all appears to be in working order then the PCB has more than likely failed.

Proceed to replace the PCB with a new one. As this time we suggest you take a photo of the electrical layout for reference.



To replace, leave all connections in position and remove the current board by releasing the plastic clips at the top and bottom location and move to the side, refit the new board into position and then proceed to disconnect and then reconnect each connector one by one to ensure that each one is connected to the correct location.

Refit the electrical cover and then refit the upper casing and restart the unit and check that the error has cleared.

E8 Error 3 minutes after start up



Now if the error presents approx. 3 mins after start up then we need to check over the compressor.

Locate the compressor and its electrical connections cover. Remove the holding nut and then the cover to reveal the electrical connections. Test the connections and resolve where possible. If the compressor is deemed to have failed contact Chromagen for further advice.

170: Error Code - E8 (Electric Leakage Error) 2 of 2

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E8 Error after E-heater is activated

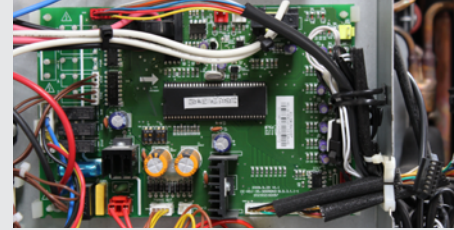
Now if the E8 error presents once the unit enters E-heater mode, we need to check the element. Proceed to access the element compartment located in the lower compartment under the front fascia cover. Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



With power activated to the unit, carefully test the element is receiving 240 Volts with a multimeter by placing each of the prongs on the two terminals. If 240 volts is evident then there appears to be an issue with the element. If this is the case isolate power to unit and proceed to replace the element.



If 240 volts is not evident, we need to test all the corresponding connections back to the PCB to locate where the error exists. Proceed to carefully test the thermostat. If the thermostat is showing 240 volt supply, then the issue lies between the automatic thermostat and the element. If the automatic thermostat shows no voltage then continue to test up the line for correct voltage.



If there was no voltage at the thermostat then check the UE connector within the electrical compartment is providing power.

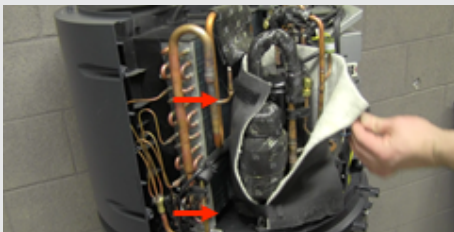
280: Error Code - E9 (Compressor Suction Temperature Sensor - TH Sensor)

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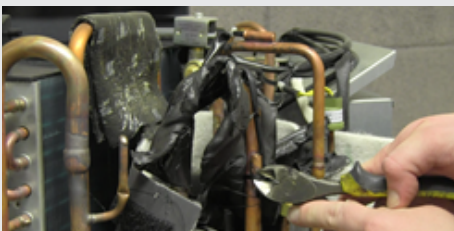
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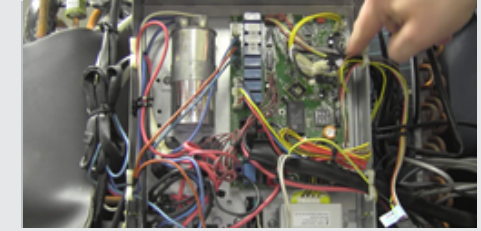
If the controller is indicating an E9 error code, then there is an issue with the Compressor Suction Temperature Sensor (TH Sensor). To access the Compressor Discharge temp sensor, we need to remove the upper front casing (refer to separate instruction).



The Compressor Suction Temp Sensor is located on the inlet pipe to the compressor. To access we need to remove the insulation of the compressor by removing the two Velcro tabs.



Then to uncover the sensor we need to remove the cable tie and peel back the insulation material. Then to release the sensor, cut the cable tie and gently pull down out of its container.



Inspect for any visual damage to the sensor and its lead and check that the corresponding connector is securely seated in the TH socket on the PCB. Once a visual inspection is deemed OK and the connector has been resealed, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from its container and tracing its cable back to the PCB and disconnect from socket labelled TP. Note you will need to cut some cable ties to remove the cable, it is advised to re-cable tie all cables in a similar fashion once sensor and cable have been replaced.

Refit the electrical cover and then refit the upper casing and restart the unit and check that the error has cleared.

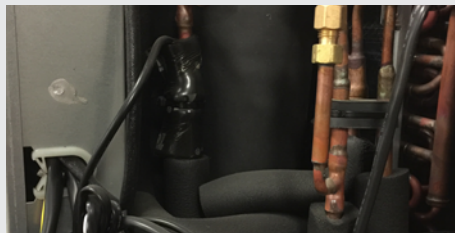
170: Error Code - E9 (Compressor Suction Temperature Sensor - TH Sensor)

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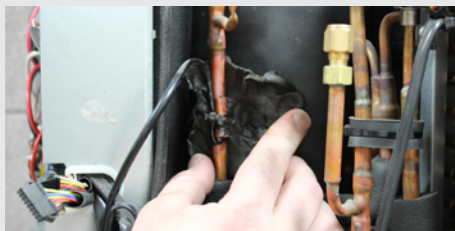
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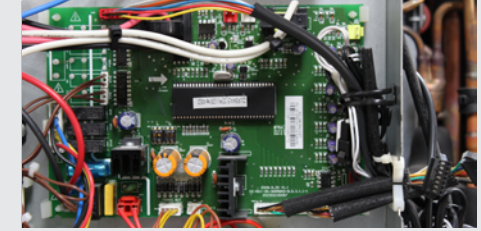
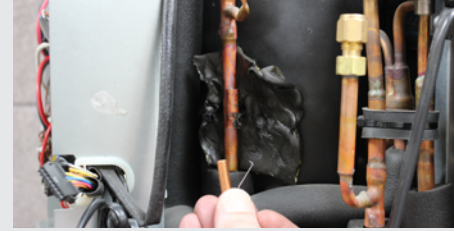
If the controller is indicating an E9 error code, then there is an issue with the Compressor Suction Temperature Sensor (TH Sensor). To access the Compressor Discharge temp sensor, we need to remove the upper front casing (refer to separate instruction).



The Compressor Suction Temp Sensor is located on the inlet pipe to the compressor



To uncover the sensor we need to remove the cable tie and peel back the insulation material.



Then to release the sensor, cut the cable tie and gently pull down out of its container. Inspect for any visual damage to the sensor and its lead and check that the corresponding connector is securely seated in the TH socket on the PCB. Once a visual inspection is deemed OK and the connector has been resealed, restart the unit and see if the error has cleared.

If not, proceed to replace the sensor by removing it from its container and tracing its cable back to the PCB and disconnect from socket labelled TP.

Refit the electrical cover and then refit the upper casing and restart the unit and check that the error has cleared.

280: Error Code - EE (E-heater open-circuit Error)

280L



If the controller is indicating an EE error, then there is an issue with the circuit of the E-heater. To assess this error, proceed to access the element compartment located in the lower compartment under the front fascia cover. Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



With power activated to the unit, carefully test the element is receiving 240 Volts with a multimeter by placing each of the prongs on the two terminals. If 240 volts is evident then there appears to be an issue with the element. If this is the case isolate power to unit and proceed to replace the element.

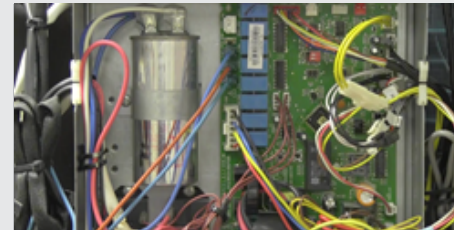


If 240 volts is not evident, we need to test all the corresponding connections back to the PCB to locate where the error exists.

So firstly we need remove the upper tank compartment. Then check that the manual thermostat hasn't been tripped. If tripped, the red button will protrude past the thermostat and will need to be manually reset by carefully pushing the red button.



If the manual thermostat has not been tripped, then we need to proceed to test the automatic thermostat for 240 volt supply. Again with power activated to the unit, carefully test the automatic thermostat. If the automatic thermostat is showing 240 volt supply, then the issue lies between the automatic thermostat and the element. If the automatic thermostat shows no voltage then continue to test up the line, checking the manual thermostat for correct voltage.



If there is still no voltage at the manual thermostat then check the UE connector within the electrical compartment is providing power.

280: Error Code - EF

280L

Reset the Power Supply. If the unit still presents the error EF continue to replace the Mother PCB.

280: Error Code - Ed

280L

Reset the Power Supply. If the unit still presents the error EF continue to replace the Mother PCB.

280: Error Code - P1 (High Pressure Protection)

280L

HP triggers P1 when the discharge pressure of compressor is more than 3000kpa, disappears when pressure drops below 2400kpa

Check the high pressure switch and its connector on PCB, ensure they are securely seated and connected.

Check the T5U and T5L sensor connection on both PCB and sensor head location. if the problem persists, contact your service agent for further guidance.

280: Error Code - P2 (High Discharge Temperature Protection)

170L

280L

If the controller is indicating a P2 error code, then the unit has gone into high discharge temperature protection mode.

This means the compressor is releasing abnormally high temperatures (above 115 degrees) and the system has shut down to protect itself.



Go to the query mode (Press and hold E-Heater & Disinfect buttons at the same time for 1 second) and check the T5U, T5L, Tp, Th, T3 and T4 sensor reading, if the sensor reading is abnormal, check the corresponding sensor connection to PCB, ensure it is all securely seated, or replace the sensors if necessary.
(Please refer to the separate instructions regarding the checking and replacing sensors)

If the sensors are fine, we need to check that the system is not blocked in any way including that both air inlet and outlet are free from obstruction and that the water connections are not restricted in any way.

Next we should perform a visual inspection around the lip / base of the upper section looking for any signs of greasy liquid. If greasy liquid is evident then there is potentially a refrigerant leak and would need to be addressed by a refrigerant technician or the complete unit replaced.

It is also advised to check that the tank is full of water.

If there is evidence of air or water blockage and no evidence of greasy liquid then the tank sensors and compressor discharge temp sensor need to be checked.

If the problem persists, contact your service representative for further guidance.

170: Error Code - P2 (High Discharge Temperature Protection)

170L

280L

If the controller is indicating a P2 error code, then the unit has gone into high discharge temperature protection mode.

This means the compressor is releasing abnormally high temperatures (above 115 degrees) and the system has shut down to protect itself.

Go to the query mode (Press and hold Clock and Cancel buttons at the same time for 1 second) and check the T5U, T5L, Tp, Th, T3 and T4 sensor reading, if the sensor reading is abnormal, check the corresponding sensor connection to PCB, ensure it is all securely seated, or replace the sensors if necessary.

(Please refer to the separate instructions regarding the checking and replacing sensors)

If the sensors are fine, we need to check that the system is not blocked in any way including that both air inlet and outlet are free from obstruction and that the water connections are not restricted in any way.

Next we should perform a visual inspection around the lip / base of the upper section looking for any signs of greasy liquid. If greasy liquid is evident then there is potentially a refrigerant leak and would need to be addressed by a refrigerant technician or the complete unit replaced.

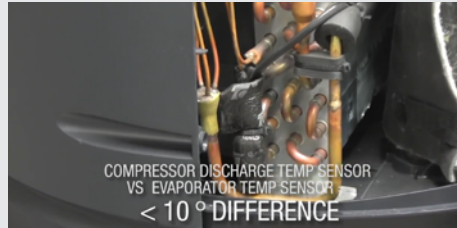
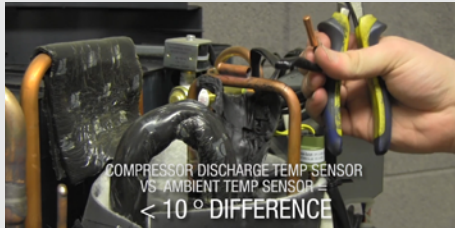
It is also advised to check that the tank is full of water.

If there is evidence of air or water blockage and no evidence of greasy liquid then the tank sensors and compressor discharge temp sensor need to be check.

If the problem persists, contact your service representative for further guidance.

280: Error Code - P3 (Compressor Abnormally Stopped)

280L



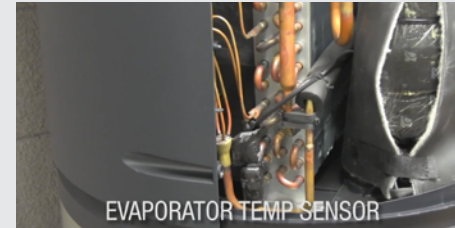
If the controller is indicating a P3 error code, then the Compressor has abnormally stopped. This generally occurs when the Compressor discharge temperature sensor outputs a difference in temperature of 10 degrees or less when compared to the Evaporator temperature sensor after the compressor has been running for 10 mins or more.



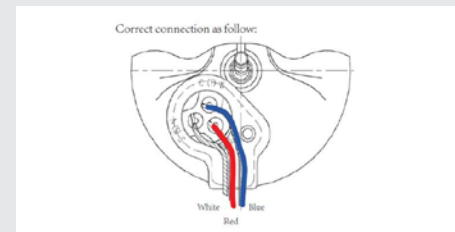
When the P3 error occurs we need to check the sensors are reading the correct temperature. To check the temperature readings we need to enter "query" mode. To do this simply press the E-heater and the disinfect button simultaneously for 1 sec.



Once mode is entered we can scroll through the running parameters including the temperatures for both the Compressor discharge sensor (TP) and the evaporator temperature sensor (T3)
(Record both temperatures down)



If the parameters on screen confirm there is a difference of less than 10 degrees, then we need to perform a manual check, testing the temperature of each location. If the manual readings support both of the on screen readings then it would appear that there is a compressor issue. If one or both manual readings are significantly different then the corresponding sensor may need to be replaced. (Refer to the relevant instruction)



If both sensors are fine, restart the unit and check if the compressor starts to run. If the compressor is not running, check the compressor resistance, along with the compressor's wiring connection (as shown above), and check whether power is evident in the compressor terminal,

It is also recommended to inspect as to whether there may be a refrigerant leakage.

If the problem persists, please contact your service representative for further guidance.

280: Error Code - P4 (Compressor Overload protection)

170L

280L

If the controller is indicating a P4 error code, then the Compressor has gone into overload protection. This occurs when the Compressor is drawing more than 10 amps.

Check the sensor connection to PCB (T5U, T5L, Tp, Th, T3), ensure it is all securely seated.

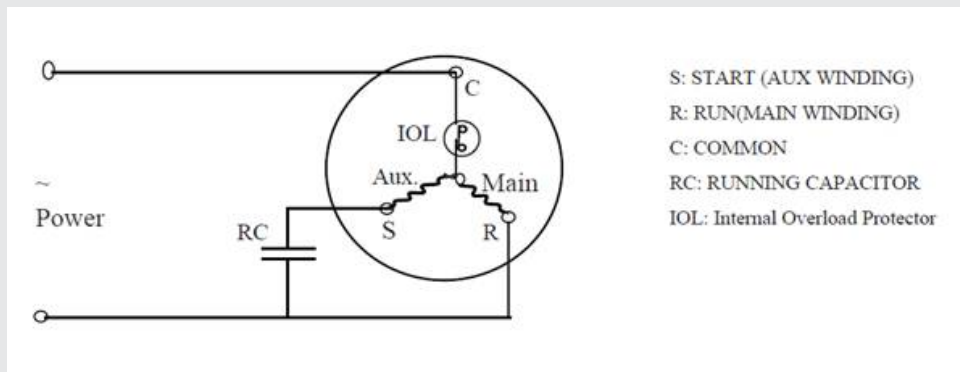
Check the power voltage is in the right range 220-240V or not

Check the fan is running ok

Check the dip switch setting is correct

Visually check the capacitor

Check the compressor resistance, unplug the connector on the compressor, then measure the terminal Rrc, Rsc and Rsr. It should $R_{sr} = R_{sc} + R_{rc}$, otherwise compressor is faulty, contact your service representative for further guidance.



170: Error Code - P4 (Compressor Overload protection)

170L

280L

If the controller is indicating a P4 error code, then the Compressor has gone into overload protection. This occurs when the Compressor is drawing more than 10 amps.

Check the sensor connection to PCB (T5U, T5L, Tp, Th, T3), ensure it is all securely seated.

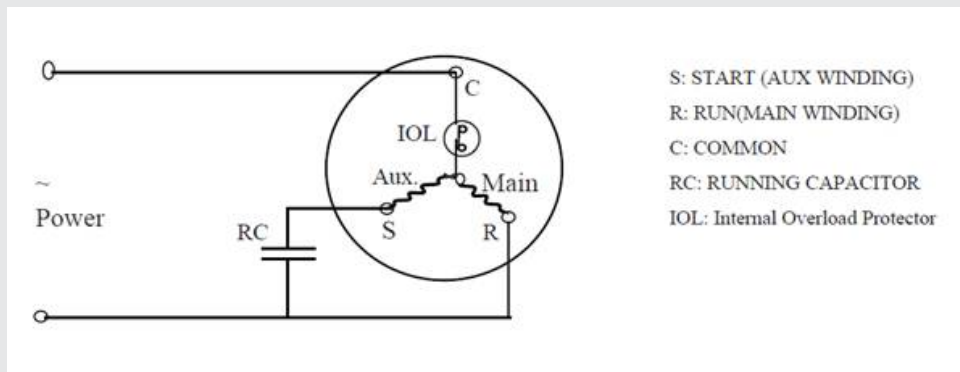
Check the power voltage is in the right range 220-240V or not

Check the fan is running ok

Check the dip switch setting is correct

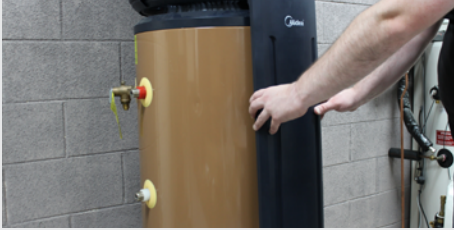
Visually check the capacitor

Check the compressor resistance, unplug the connector on the compressor, then measure the terminal Rrc, Rsc and Rsr. It should $R_{sr} = R_{sc} + R_{rc}$, otherwise compressor is faulty, contact your service representative for further guidance.



170: Error Code - P8 (E-heater open circuit Error)

170L



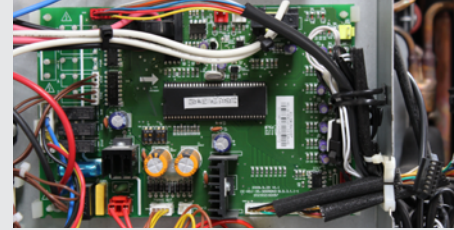
If the controller is indicating an P8 error, then there is an issue with the circuit of the E-heater. To assess this error, proceed to access the element compartment located in the lower compartment under the front fascia cover. Remove the lower electrical cover by removing the array of screws and put cover and fasteners aside.



With power activated to the unit, carefully test the element is receiving 240 Volts with a multimeter by placing each of the prongs on the two terminals. If 240 volts is evident then there appears to be an issue with the element. If this is the case isolate power to unit and proceed to replace the element.



If 240 volts is not evident, we need to test all the corresponding connections back to the PCB to locate where the error exists. Proceed to carefully test the thermostat. If the thermostat is showing 240 volt supply, then the issue lies between the thermostat and the element. If the thermostat shows no voltage then continue to test up the line for correct voltage.



If there is still no voltage at the thermostat then check the UE connector within the electrical compartment is providing power.