



SANYO North America

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Technical Service Bulletin

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Topic: Troubleshooting procedures to be used in addition to the service manual. All manuals can be found on our web site at <http://us.sanyo.com/HVAC>

Applicable Product: All SANYO "7 series" single zone mini split product from 9,000 - 24,000 BTU and all **Flexi Multi** models.

Symptom: No Light on the Outdoor Board

Diagnostic Procedures:

- Check power supply from breaker or disconnect.
- Check the fuse on main outdoor board. If fuse is blown, by pass it with an in line fuse holder (same size as bad one) until the short is located, this includes checking Ohms on all components. Ohm terminals (field wire connections) 1, 2 and 3 to ground. Visually check the board for any possible shorts. If the fuse is good or bad, proceed to the next steps.
- Ohm the reactor. It should be 3-4 ohms.
- Turn the power off and wait for it to dissipate. Disconnect the fan motor, compressor, crank case heater and the expansion valve from the board. If it is a Flexi model, disconnect the expansion valve board. Turn the power on and check if the board is on. If it isn't, the board is bad. If it is, one of the components is bad.
 - Check the fan motor to ground.
 - Check through the compressor windings and to ground. A mega ohmer is recommended because we have seen DC compressors run (for a short time) when they are partially grounded.
 - Check the crankcase heater.
 - Check the expansion valve. Ohm from the grey wire to the other wires in the valve connector and you should read 46 + or - 4 ohms.
 - On Flexi models visually check the expansion board and ohm all valves that plug into it as well.

- Plug each component in one at a time. If the board light goes out, flashes or the board fuse blows, you have most likely found the bad component.

Symptom: Flashing Light on Outdoor Board

Diagnostic Procedures:

- Turn off power and let it dissipate. Unplug all components, except the reactor, and the light should turn to solid when power is applied. If it doesn't the board is most likely bad.
- Once you have a solid light, plug each component back in one at a time. Remember to cycle the power and let it dissipate each time. If the light starts to flash, the last component plugged in is most likely bad.
- If you plug the fan motor in and the light starts to flash, it could be the board or the motor is bad. We would suggest replacing both. Before removing old parts, try plugging in the new motor since it is the easiest to try.

Symptom: No lights on at the Indoor Unit

Diagnostic Procedures:

- Check power supply at terminals 1 & 2. Is there a condensate pump with an open safety switch?
- Will the unit respond by pushing the operation button? If so, replace the batteries in the remote and push the ACL button for 3-5 seconds. Also, check the addressing of the remote. If there is no display on the remote (after pushing ACL) replace remote.
- There is a way to test if the remote is sending a signal. Turn a radio on and to a blank AM station. Push any remote button while holding it against the radio. If you hear interference through the radio's speaker, the remote is good. Try it in several locations on the radio before replacing the remote.
- If the remote checks good but the unit won't respond to it, replace the board and receiver.
- If there are still no lights on at the indoor unit, check the fuse on the indoor board. If it is, check (ohm) all the components that plug into the board and verify 220 volts was not applied if it is a 110 volt model.

Symptom: Flashing Lights on Indoor Unit

Diagnostic Procedures:

- If this is a new installation, check polarity of the field installed interconnecting wires between terminals 1, 2 and 3 at the indoor and outdoor unit. Also check for polarity issues caused by a work box, disconnect or condensate pump.
- If an indoor or outdoor board has been changed, verify the power wires from the board to terminals 1, 2 and 3 are landed correctly. There is a schematic inside the cover of both units.

- There might also be an error code. Use the remote to put the unit into self diagnostics mode and retrieve the code. This procedure is explained on the back of the indoor unit's cover. It is also explained in the service manual which can be downloaded at our website. <http://us.sanyo.com/HVAC>
- If there are communication codes. Disconnect the field wire at terminal 3 of the indoor unit and check for 22-26 volts DC between TERMINALS 2 and 3(not the wire and terminal 2). If there is no voltage, replace the indoor board. If the voltage checks good, connect the wire back up and proceed to the next step.
- Disconnect the wire at terminal 3 of the outdoor unit and check for the same voltage between the WIRE and terminal 2 of the outdoor unit. Note that if this is a Flexi Multi it might not be labeled as terminal 3 but it is the third wire going to the indoor unit you are troubleshooting. If the voltage checks the same, replace the outdoor board is causing the problem. If the voltage is too high or low, replace the interconnecting (14/3 with ground) field wiring.

Other Items for Troubleshooting:

Diagnostic Procedures:

- If the indoor unit is running (cool mode), has a steady green light but won't cool. It is most likely locked out because of low ambient air temps. Try warming up the outdoor air sensor.
- If you are having intermittent (communication?) problems, verify you power supply is not from a 3 phase panel. Try using power from a single phase panel or portable generator if available.
- Check for voltage on the ground wire (to an earth ground) of the power supply. There should be none.