

SMC Sensor Troubleshoot Addendum

This addendum applies only to Heat-Timer SMC Slab Snow Sensor .

To test the Slab Snow Sensor upon getting sensor readings or erros or incorrect SMC behavior.

Read all Sensor Values:

- Copy all sesnor values from the panel screens to a sheet of paper.
- Mark if the SMC is in Melting or Idle mode.
- Mark if the Surface Water Detect Light is On or Off.
- Disconnect all 5 wires from the panel. Remember to remove Alarm Relay prior to disconnecting sensors. After reconnecting sensors, reinsert the Alarm relay back into its socket.
- Using a Digital Multimeter that is capable of reading Ohms Ω , measure the resistance between the Black wire and each of the other 4 wires.
- The Brown and Black wires Ohm reading should correspond to the temperature read on the Slab Temp display. Use the Temperature Sensor Chart on the right to translate Ohms into temperature for that sensor. If the ohm reading appears to be incorrect, go to the precipitation sensor in the slab and see if it is being affected by sun, is covered with ice, or has other factors affecting it that would cause it to read a temperature different from the rest of the slab. If the sensor reads a higher resistance than is shown on the chart, or reads OPEN, the wires leading to the sensor may be broken or damaged. If the sensor reads a lower resistance than is shown on the chart, or reads SHORT, the wires to the panel may have become shorted together or exposed wires may be under water.
- The White and Black wires registers the temperature of the slab heater. Its Ohm reading should be close to the temperature read on the Slab Temp display when control is in Melting or Idling stages. Use the Temperature Sensor Chart on the right to translate Ohms into temperature for that sensor. However, if control was not in Melting or Idling stages, the ohm reading should be between 5000 Ω to 15,000 Ω ohms.
- The Green and Black wires registers percipitation. If there is no precipitation, the sensor should read OPEN. If there is precipitation detected, the sensor should read from 2000 Ω to 3,000,000 Ω ohms. (Make sure that the sensor is clean else it will give false percipitation reading.)
- The Red and Black wires are the sensor heater. It should read from 50 Ω to 100 Ω ohms. If the sensor reads OPEN, the wires leading to the sensor may be broken or damaged. If the sensor reads SHORT, the wires to the panel may have become shorted together.
- If all sensor readings are correct, contact Heat-Timer factory for replacing the SMC Input Card (HTC# 900097-00)

⚠ WARNING

If sensor readings corresponds to diagnosis, but SMC does not provide snow melting, replace Input Card #900097-00 only.

- If any sensor readings are incorrect, contact Heat-Timer factory for replacing the SMC Snow Sensor (HTC# 904200-00) in addition to the Input Card (HTC# 900097-00).

Temperature Sensor Chart

TEMPERATURE (in Degrees °F)	Value (in Ohms Ω)
-30	117720
-20	82823
-10	59076
0	42683
10	31215
20	23089
25	19939
30	17264
35	14985
40	13040
45	11374
50	9944
55	8714
60	7653
70	5941
80	4649
90	3667
100	2914
110	2332
120	1879
130	1524
140	1243
150	1021
160	842
170	699
180	583
190	489
200	412
210	349
220	297
230	253
240	217
250	187