



VERIFY SUPPLY VOLTAGE AND COMPONENT INTEGRITY.

These steps will allow you to test for proper voltage at the control module (UCM) and to verify that each component is good.

Note: Clamp UCM connector plug to front top flange as shown to hold connector.



TEST 1. LINE VOLTAGE TEST (Power should be connected)



Problem:
UCM will not turn on.

With unit connected and toggle switch on test line (black, 8) to neutral (white, 16), meter should read line voltage (110-125 VAC), if not check connection, harness, high limit, toggle switch and power block connections.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



WARNING: Due to space on Molex connector, extra caution needs to take place when measuring voltage. If the two probes of the meter are touched, a short circuit will occur which could damage equipment.

TEST 2. TRIAC GATE WIRE (Power should be connected)



Problem:
Unit will not heat or boils.

With unit connected and toggle switch on, test gate wire (gray, 6) to line (black, 8), then test gate wire (gray, 6) to neutral (white, 16). When the unit is calling for heat "heating" on the display, and within the set delta, meter should read line voltage (110-125VAC). If not, check wire connections and triac.

If voltage is continuous even when the unit is at temperature and continues to boil, the UCM may be bad.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



WARNING: Do NOT remove wire from triac terminal (A₁ or A₂). It could damage control board.

TEST 3. TRIAC FEEDBACK TEST (Power should be connected)



Problem:
Unit will not heat

With unit connected and toggle switch on, test triac return (gray stripe, 7) to line (black, 8), meter should read line voltage (110-125 VAC). If not check the connections.

To continue testing for triac feedback, power must be disconnected from the unit. Disconnect power and check continuity of gray stripe wire to triac side of tank heating element.

Element may also be bad. Disconnect power and wires from element, then check element continuity. Meter reading should be 9-12 ohms.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



CAUTION: Switching machine toggle to standby does NOT shut off power to unit.



TEST 4. VALVE TESTS – BREW & INLET (Power should NOT be connected)



Diode

Problem:

Unit will not fill tank or brew

BREW AND INLET VALVE

With unit disconnected and Digital Multi-Meter set to diode check, place leads as shown. Take reading then reverse leads. If any reading is less than 5 ohms or greater than 1300 ohms or no continuity **both** ways, valve is bad.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Brew Valve



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

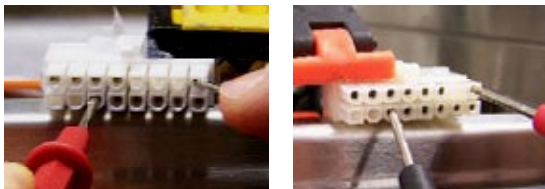
Inlet Valve



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Left Brew Valve (D1000)
Dilution Valve (Combo Brewer)
Sweetness Valve (Tea Brewer)



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Dilution Valve (Tea Brewer)



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Safety Switch – Combo Brewer Only



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.



Ohms

SAFETY SWITCH

With unit disconnected verify Safety Switch continuity. Place leads between pins 13 and 14; press Safety Switch as shown. If there is no continuity, switch is bad.

TEST 5. TEMPERATURE SENSOR (Power should NOT be connected)



Problem:
*Display shows sensor error
or unit keeps boiling*

Ohms

With power disconnected, make sure sensor is snug and flat to mounting position on tank with heat transfer paste. Make sure sensor connector is plugged in all the way. Sensor should read anywhere between 5,000 ohms (5K) if tank is hot to 200,000 ohms (200K) if tank is cool.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

TEST 6. WATER LEVEL PROBE (Power should NOT be connected)



Problem:
*Water level in tank is over
flowing or not filling.*

Ohms

With power disconnected and water touching the probe the resistance should be 100,000 Ohms or less. With the probe not touching water and tank lid installed, resistance should be greater than 150,000 ohms.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8



CAUTION:
Switching machine toggle to standby does NOT shut off power to unit.

TEST 7. WARMERS - ALPHA ONLY (Power should NOT be connected)



Problem:
Warmers are not heating

Ohms

With power disconnected, test each warmer separately. Resistance should be 50-500 ohms. Note: Inspect wiring under warmers and ensure it is NOT routed near the warmer as it may burn through.

9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Warmer – Bottom



9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Warmer – Front



9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8

Warmer – Rear



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