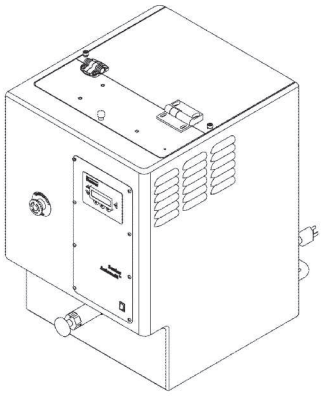
DENTSPLY

Senior Automelt III

Duplicating Material Dispenser

Service Manual



Models:	Voltage:	Frequency:
N9495000	120V	50/60 Hz
N9495001	230V	50/60 Hz

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SAFETY:

WARNING:
The SENIOR AUTOMELT is designed with safety features to protect the operator and must not be modified in any form. Only qualified individuals should repair this piece of equipment. Failure to observe these precautions may result in burns or electrical shock.

- Use indoors only.
- Never operate the unit in close proximity to combustible materials or place materials on top of the unit.
- The unit must be electrically grounded to a three wire electrical outlet or receptacle. The electrical service provided must be a dedicated line of the proper size according to local electrical codes.
- Unit must be placed in a position that allows the power cord to be easily disconnected from the wall or inlet socket.
- Do not attempt to service the unit until you have read and understand this operation manual.
- Turn off the power switch and disconnect the line cord before attempting to service the unit.
- Do not operate the unit controls with tongs or other tools.
- Do not use solvents or liquid cleaners on the control panel.
- Do not cover the top of the unit or obstruct the rear fans in any other way.
- If the unit is not operated in the manner as specified in this manual, the protection provided by the unit may be impaired.

WARNING:
The equipment cannot be assumed to meet all the safety requirements after transport or storage in humid conditions. Let the Senior Automelt operate for at least 2 hours after filling the water jacket.

PRODUCT SPECIFICATION:

MAX ELECTRICAL RATINGS:
100-120V, 50 - 60Hz, 2200W,
230V, 50 - 60Hz, 2200W

DIMENSIONS:
Height: 635 mm (25 in)
Width: 457 mm (18 in)
Depth: 508 mm (20 in)

WEIGHT:
Unit Weight: 50 Kg (110 lb)
Shipping Weight: 60 Kg (132 lb)

CAPACITY:
Tank: 23 l (6 Gal.)

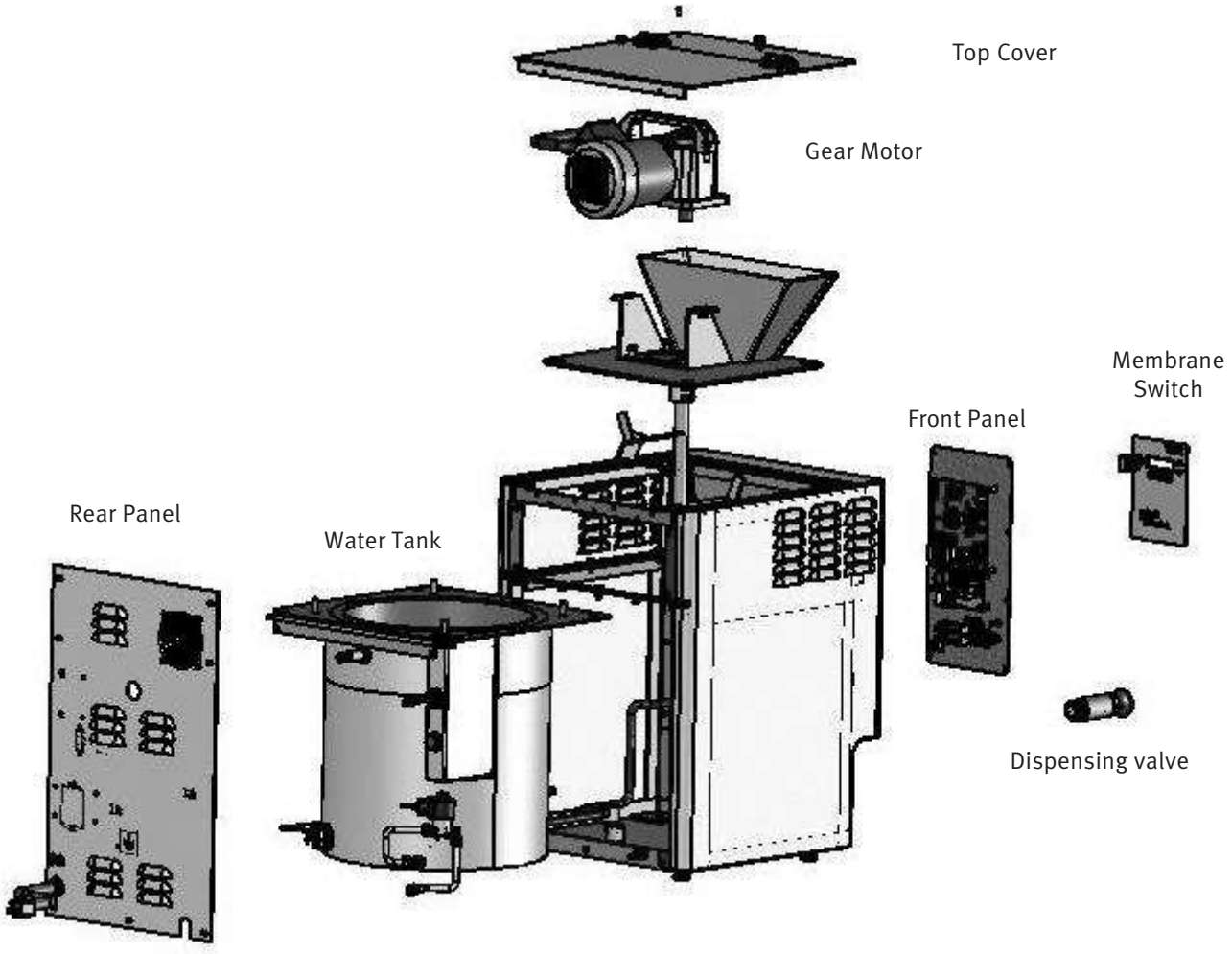
TEMPERATURE:
Operating Temperature: 5°C - 40°C (41°F – 104°F)

FUSE:
Mains: 20A circuit breaker (120V)
2x 12A circuit breaker (230V)
PCB: T 250V 2.5A

REPLACEMENT PARTS:

PART #	DESCRIPTION
N9320114	CIRCUIT BREAKER (20 AMP, 120VAC)
N9320173	CIRCUIT BREAKER (12 AMP, 230VAC)
N9495010	ELECTRIC SOLENOID VALVE (120VAC)
N9495019	ELECTRIC SOLENOID VALVE (230VAC)
N9352171	WATER PRESSURE GAUGE
N9352172	WATER PRESSURE REGULATOR
N9495012	AGITATOR BLADE ASSEMBLY
N9320182	GEARMOTOR (115VAC)
N9320183	GEARMOTOR (220VAC)
N9320177	COOLING FAN (115VAC)
N9320178	COOLING FAN (220VAC)
N9357184	IMMERSION HEATER (2500 W. 120VAC)
N9357185	IMMERSION HEATER (2500 W. 240VAC)
N9320179	POWER RELAY (120VAC)
N9320075	POWER RELAY (240VAC)
N9495011	LIQUID LEVEL SWITCH
N9495004	MAGNETIC PROXIMITY SENSOR
N9357187	THERMOCOUPLE
N9352176	BRAIDED POLYURETHANE HOSE
N9495020	DISPENSING VALVE
N9306021	FRONT PANEL ON/OFF SWITCH
N9320109	DC POWER SUPPLY
N9494915	COMPUTER BOARD
N9354460	MEMBRANE SWITCH
N9357197	E-STOP SWITCH
N9360099	HINGE SAFETY INTERLOCK SWITCH

EXPLODED VIEW:



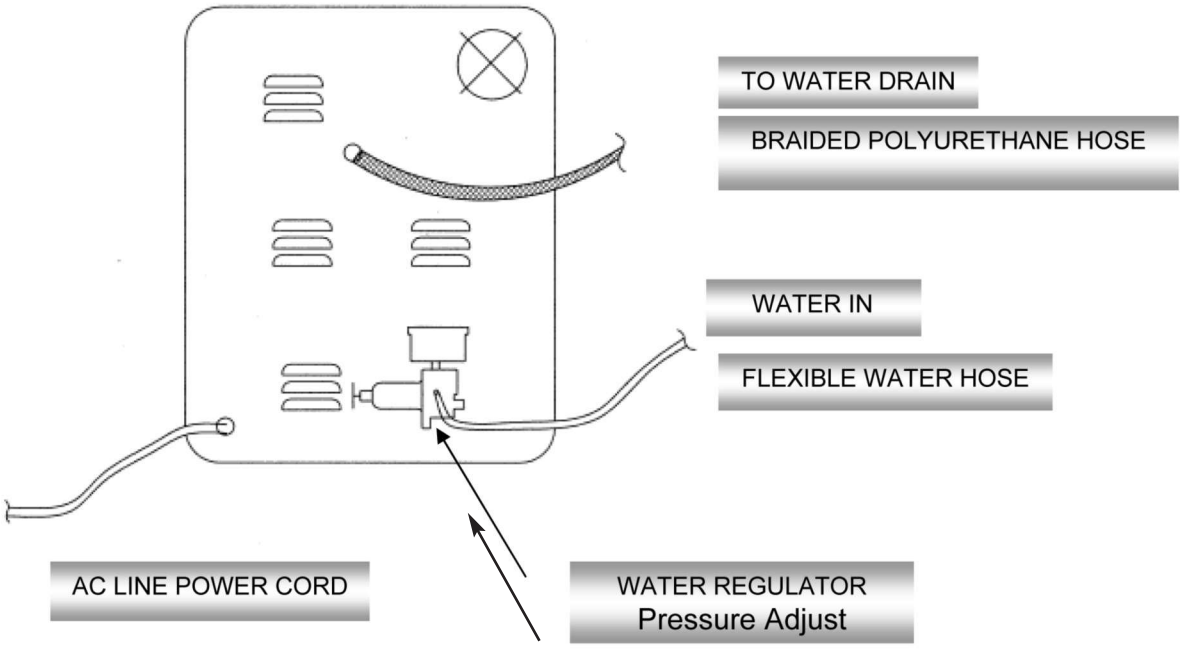
SET UP:

Place the Automelt in the laboratory at a location where power, water and drain are available, preferable by a sink.
Install the water regulator and gauge to the bulkhead male connector (water in) and the flexible water hose.

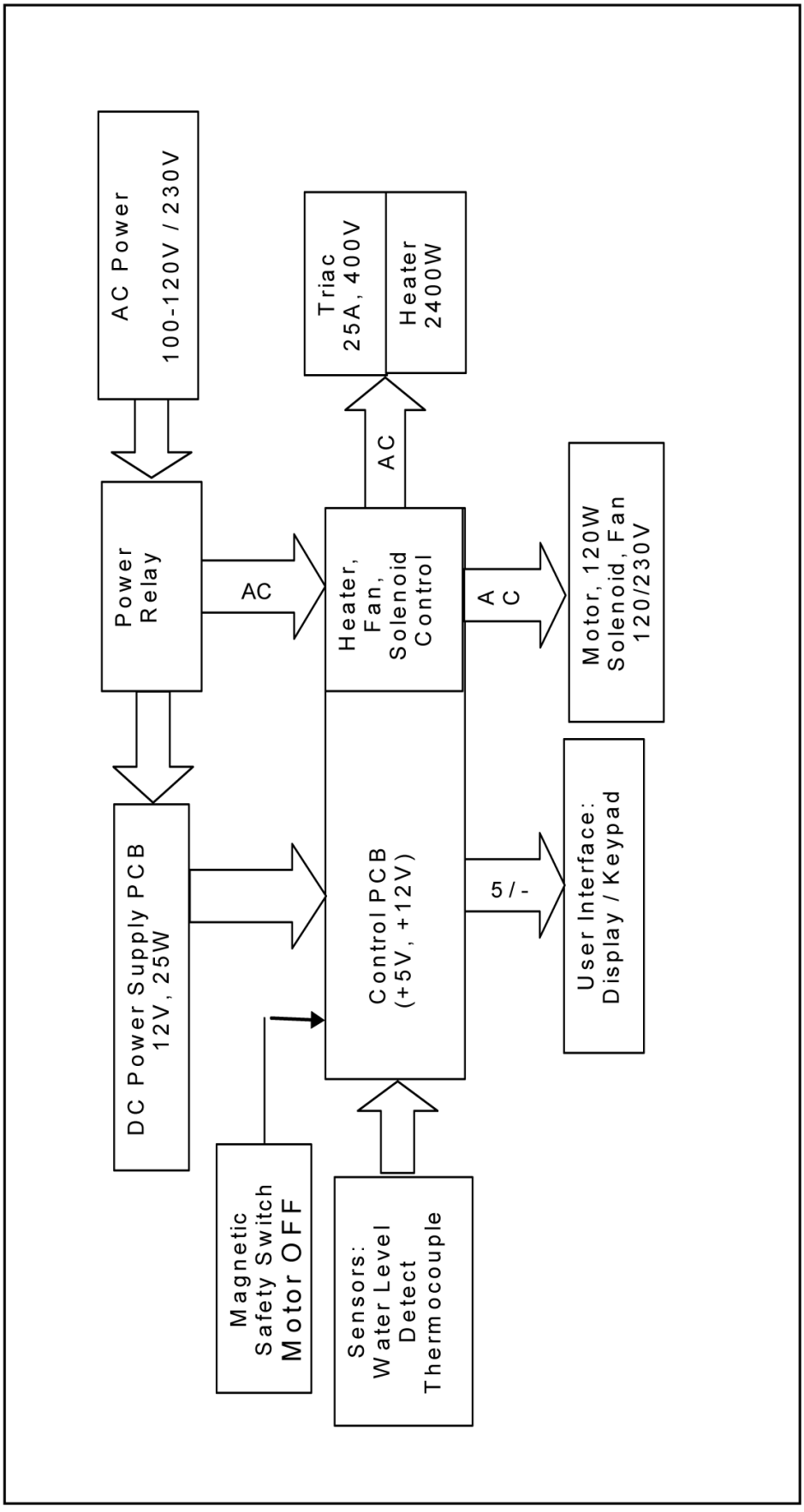
NOTE: Observe the arrow on the regulator and the label **(IN)** at the water solenoid and make sure that the water flows in the right direction.

Connect the braided polyurethane hose to the brass pipe nipple and feed the other end to a water drain.

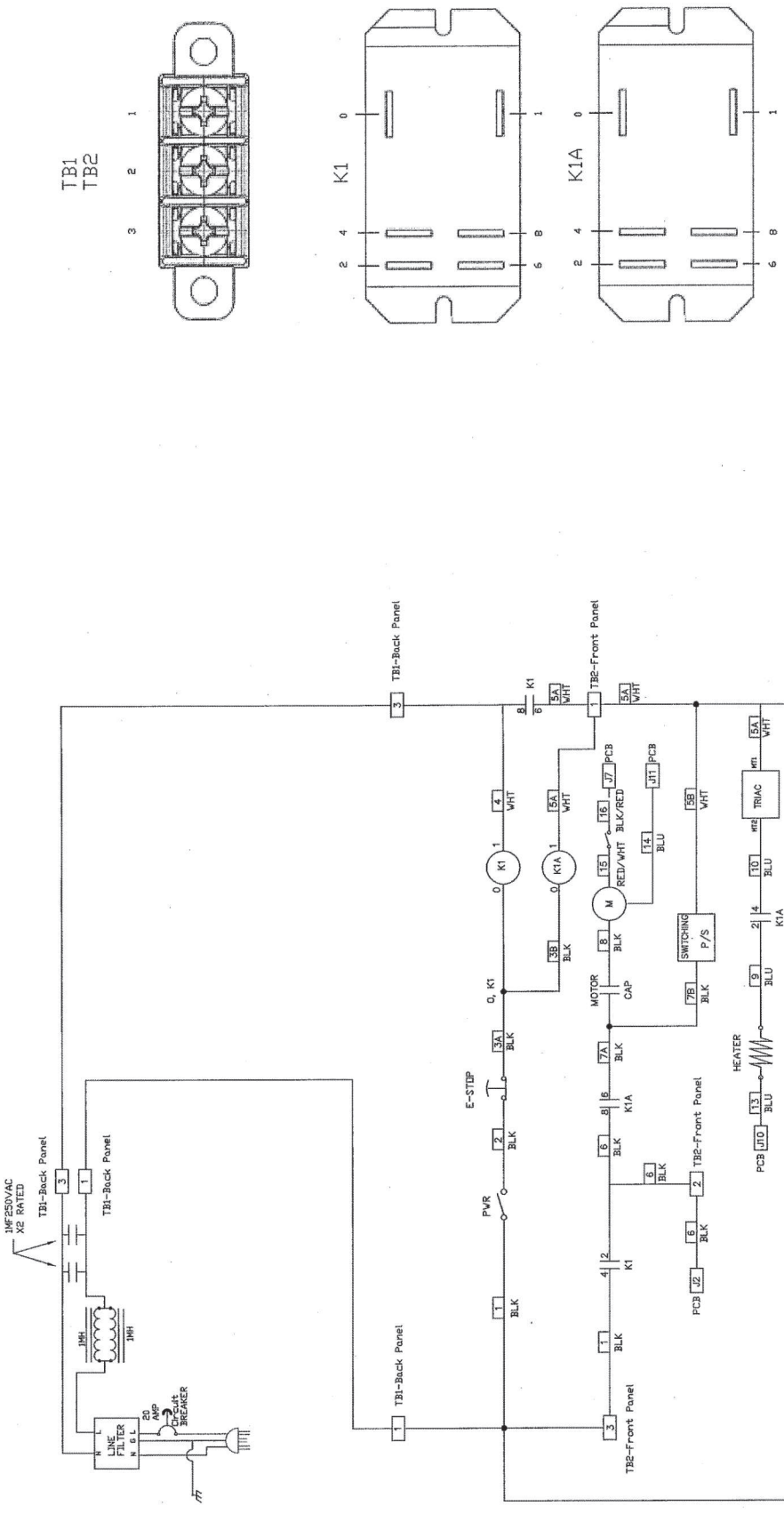
NOTE: The drain must **not** be restricted so that the water will flow freely
NOTE: During installation observe all local building codes



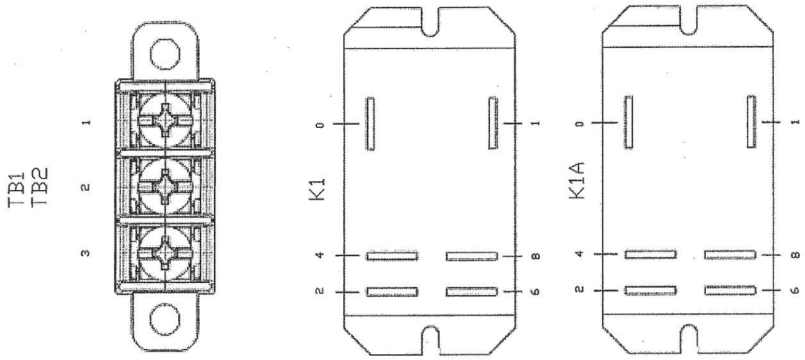
BLOCK DIAGRAM AUTOMELT:

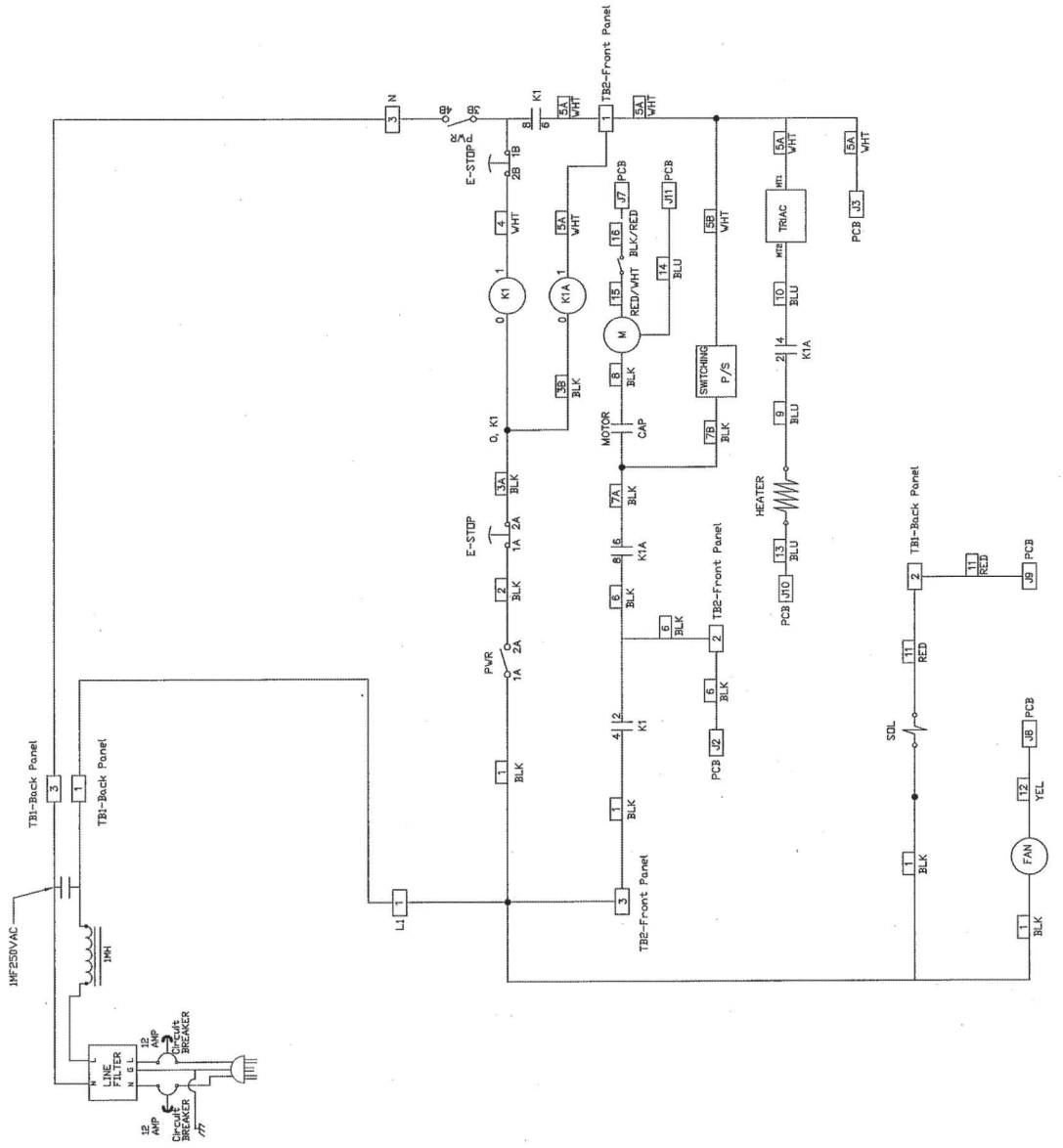


WIRING DIAGRAM 120V:

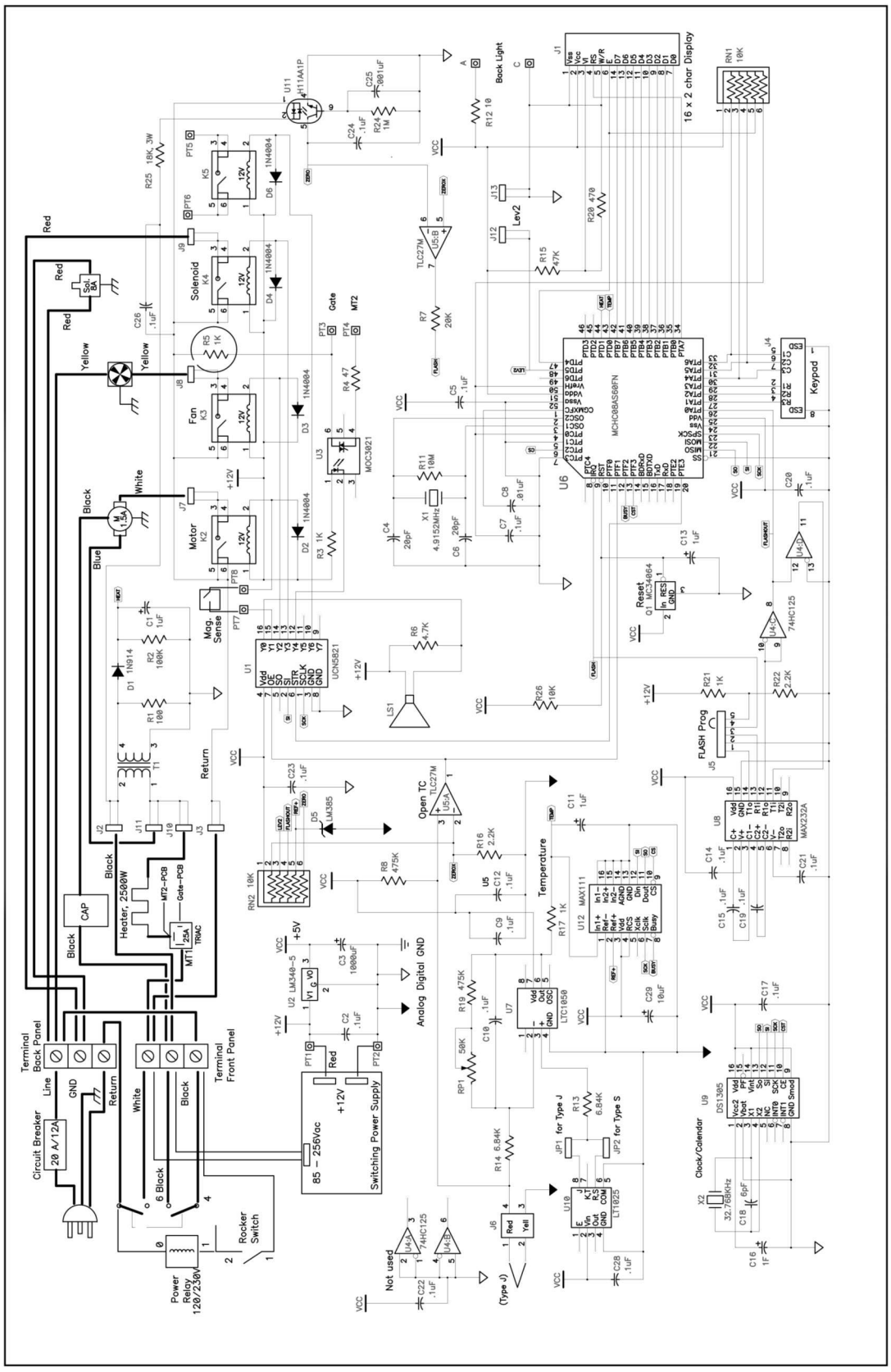


WIRING DIAGRAM 230V:

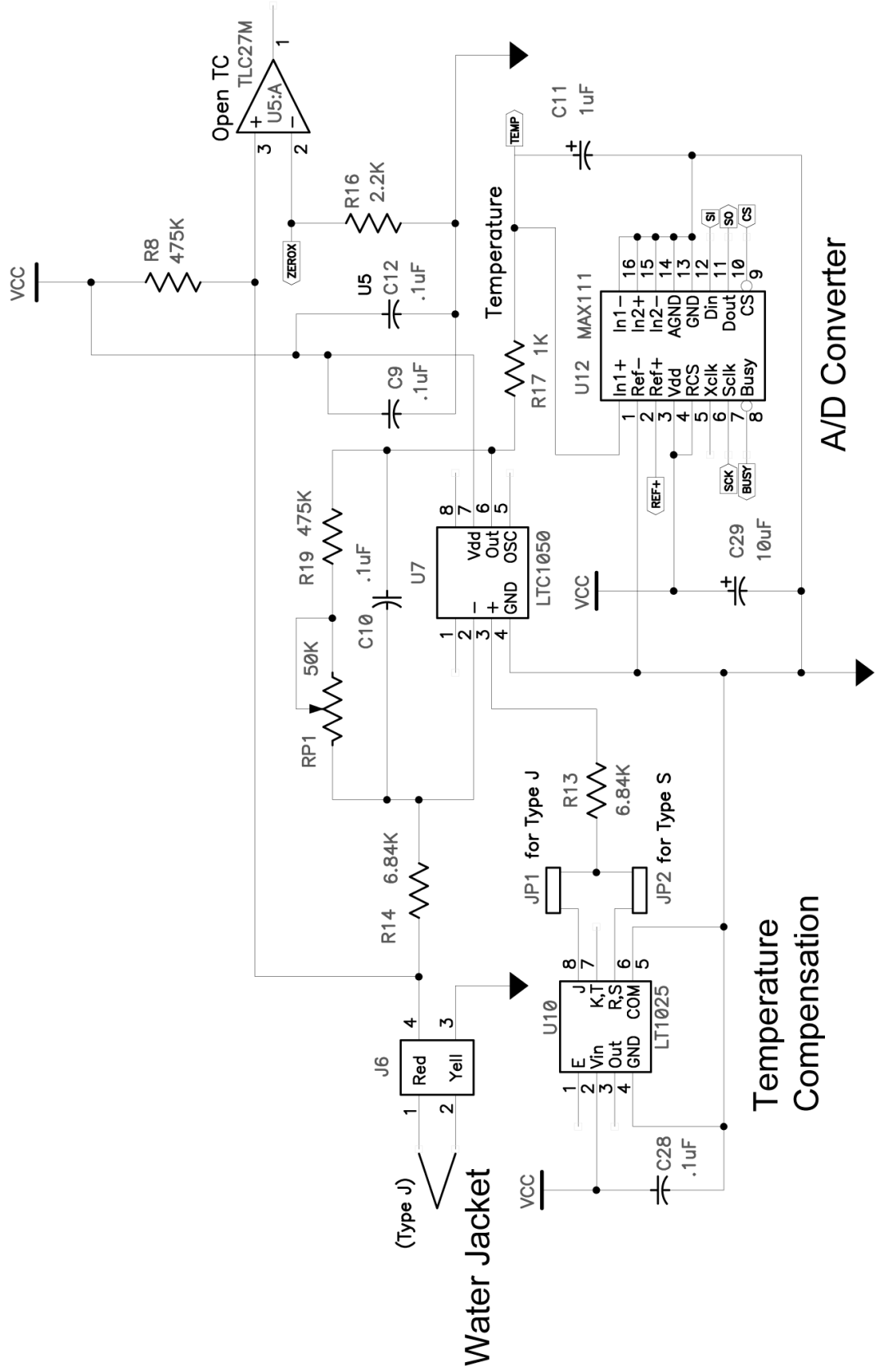




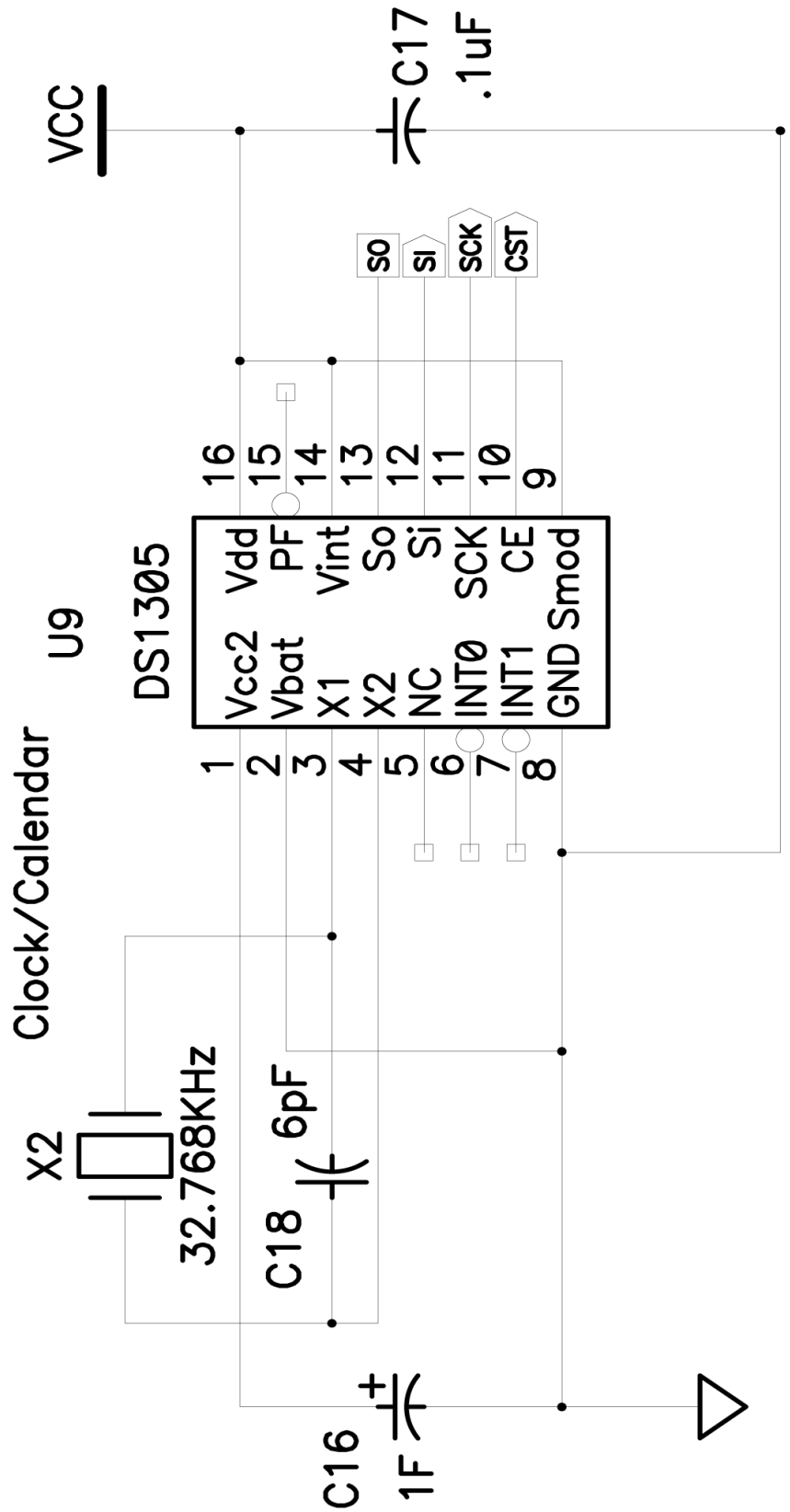
CONTROL SCHEMATIC:



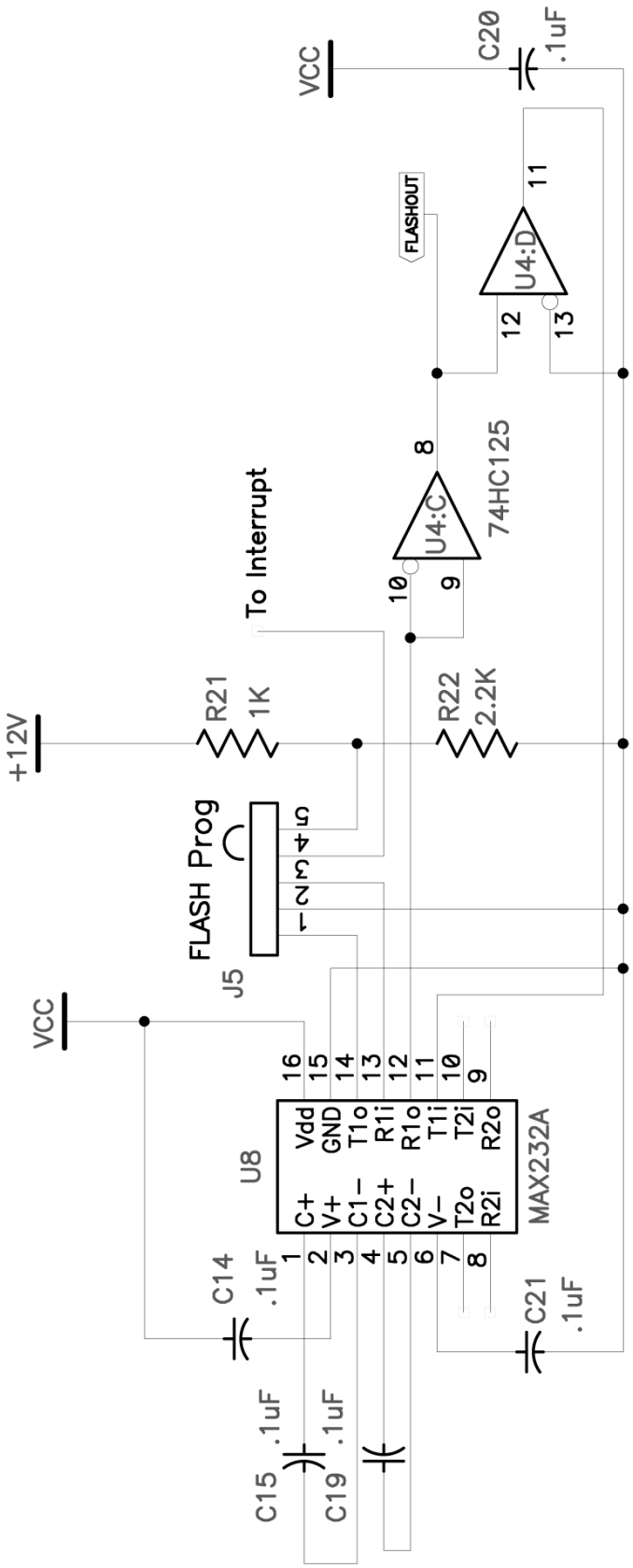
TEMPERATURE CIRCUIT:



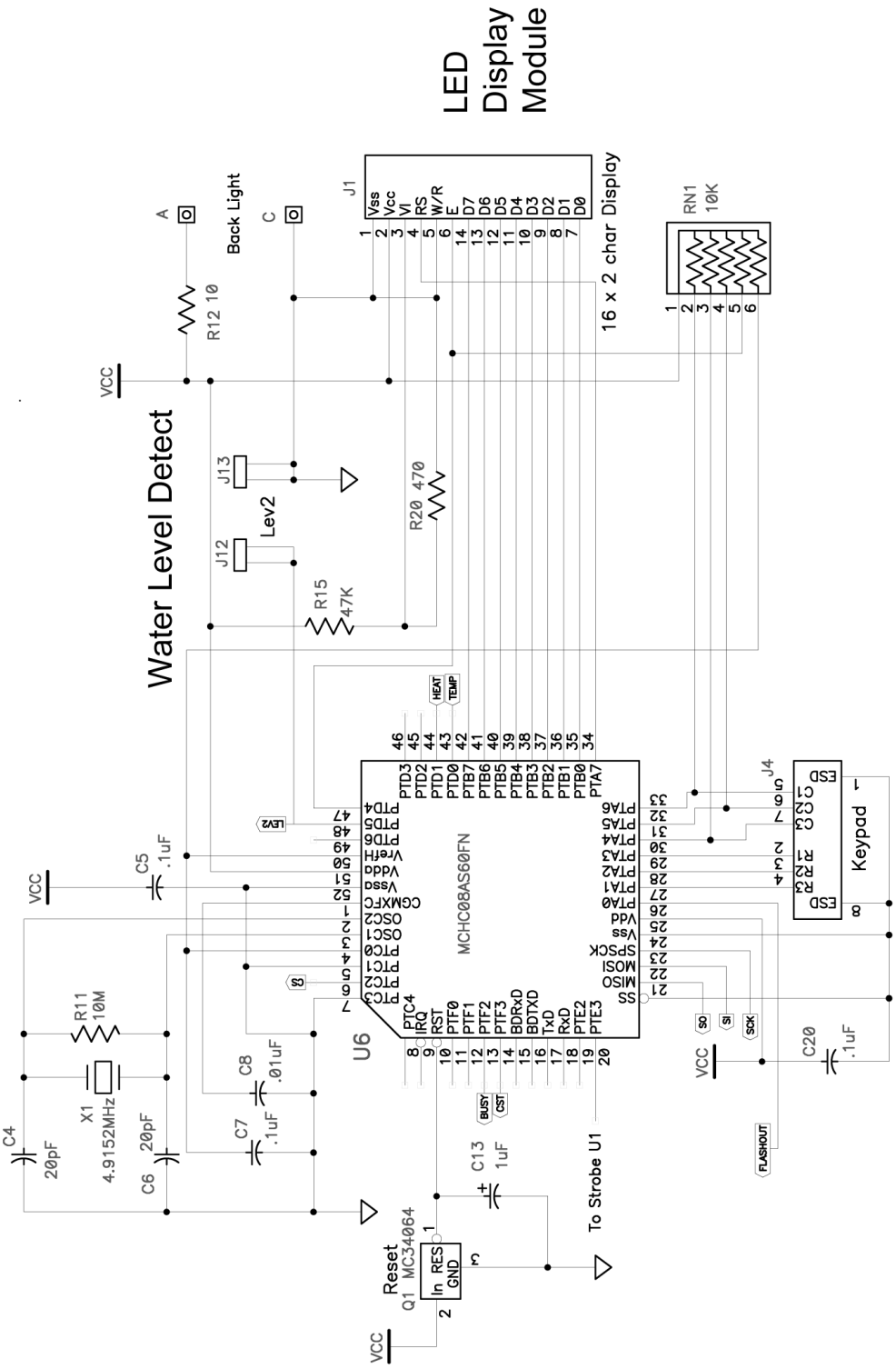
REAL TIME CIRCUIT:



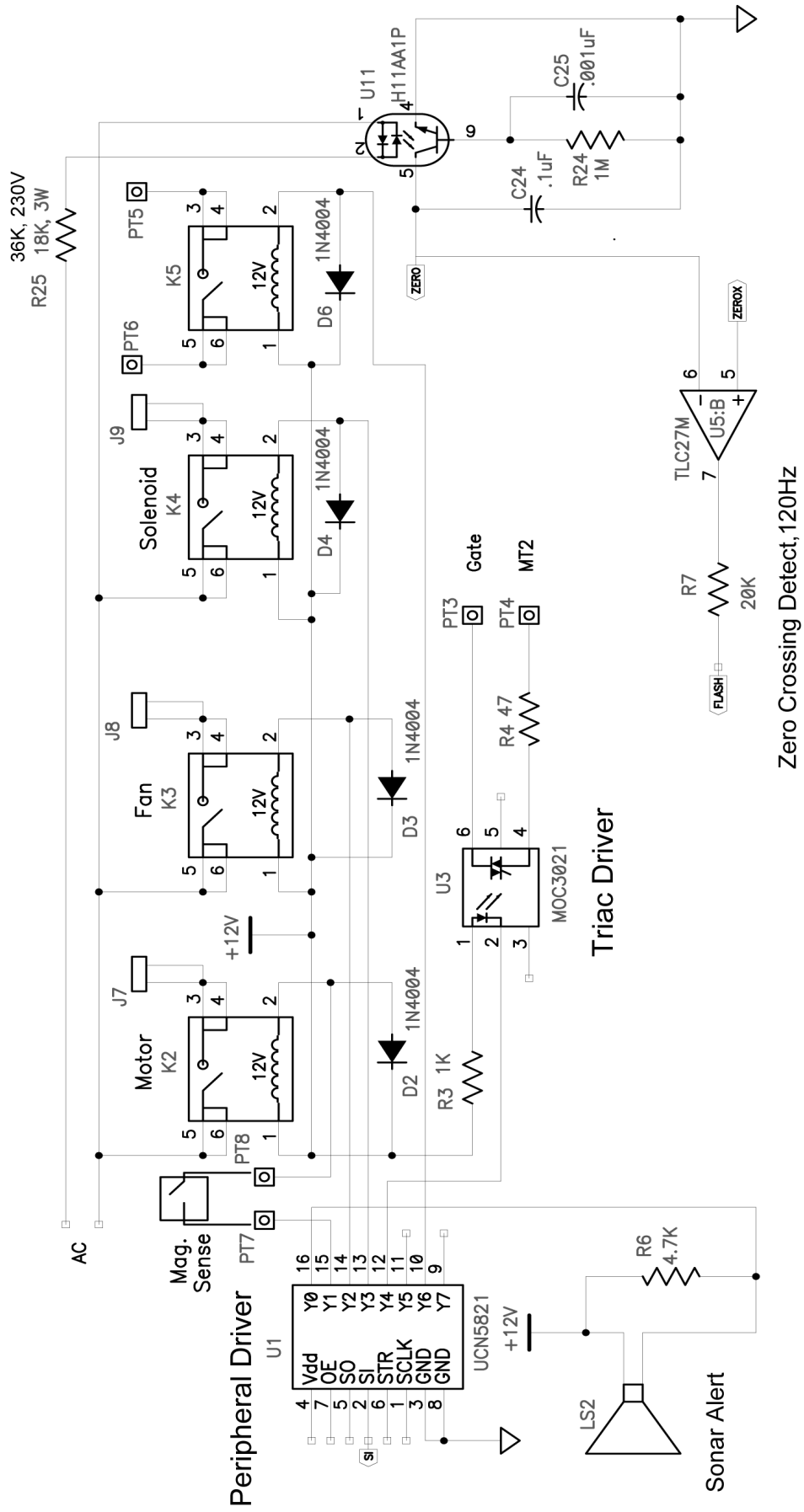
FLASH PROG. CIRCUIT:



MICROPROCESSOR:

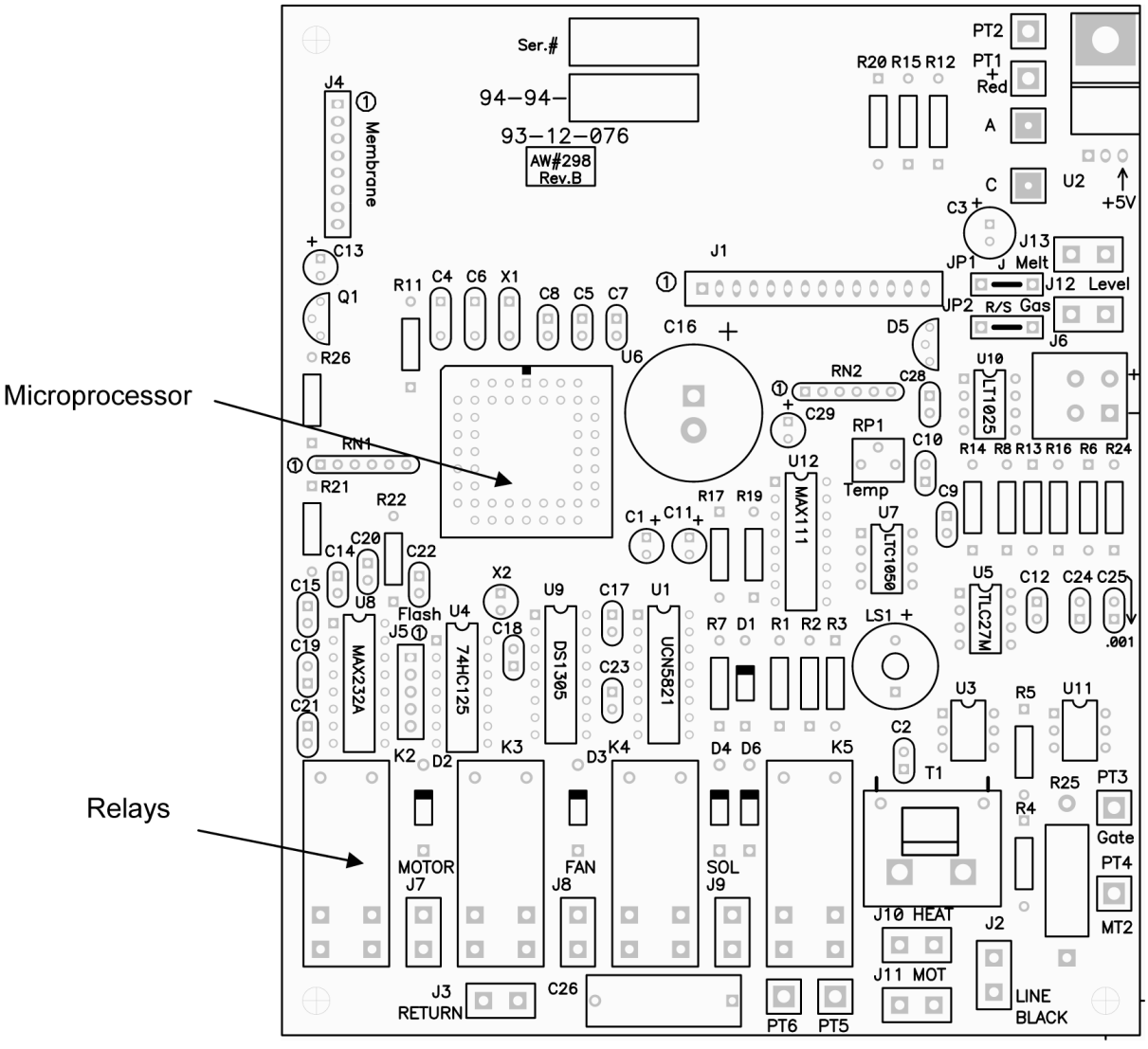


PERIPHERALS:

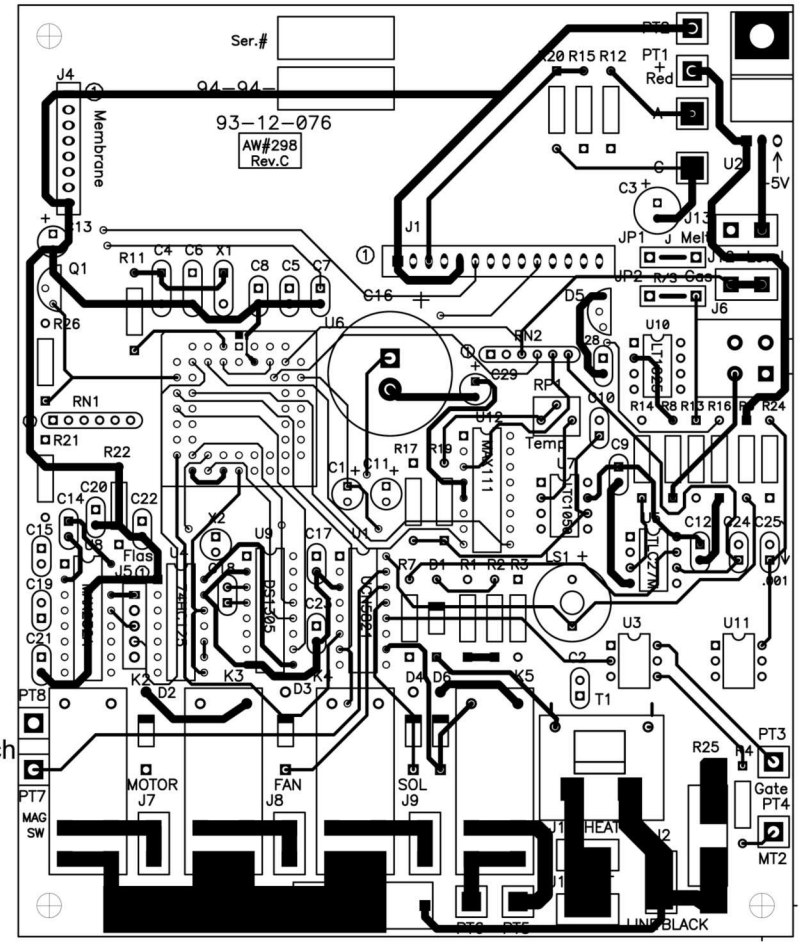


CONTROL PCB LAYOUT:

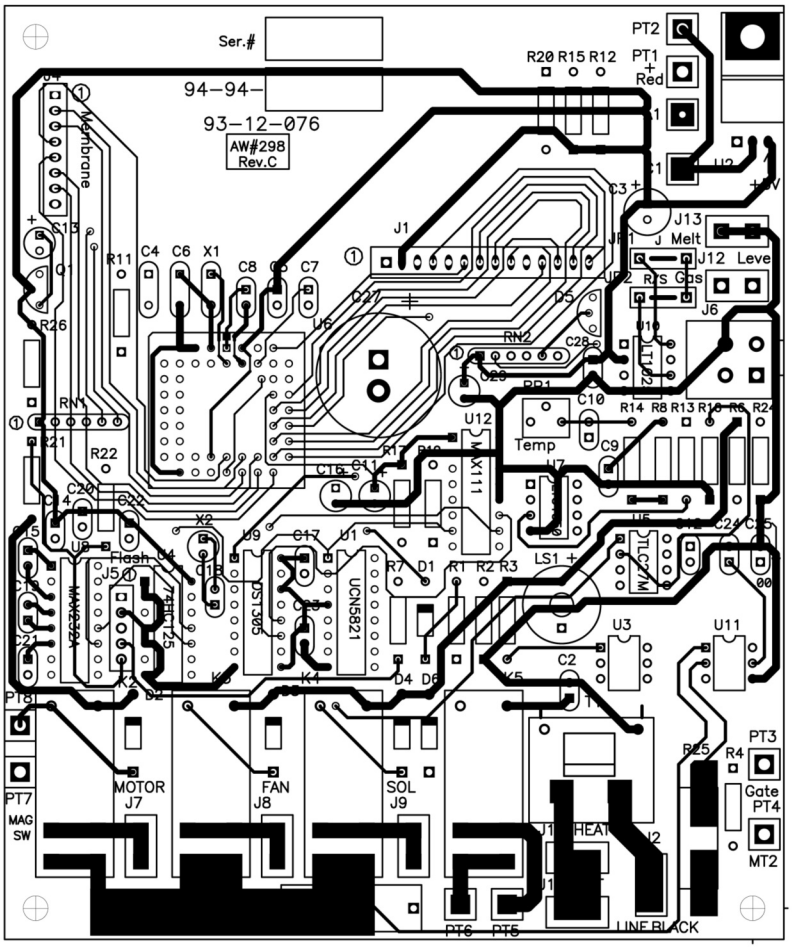
Control PCB Layout



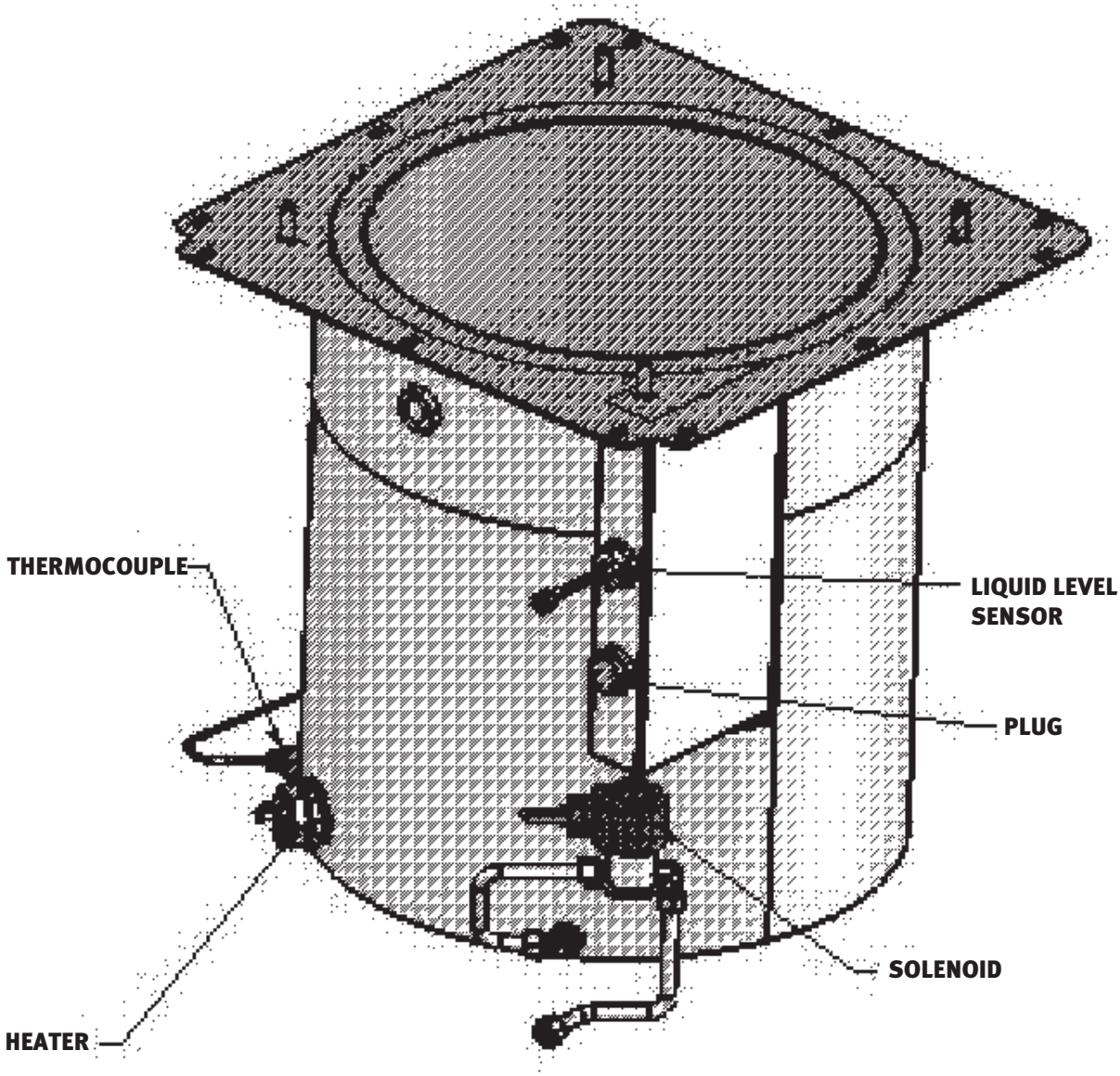
TOP LAYER PCB:



BOTTOM LAYER PCB:



WATER TANK:

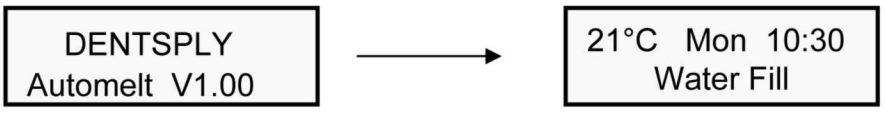


WATER FILL:

FILLING THE WATER JACKET (automatic):

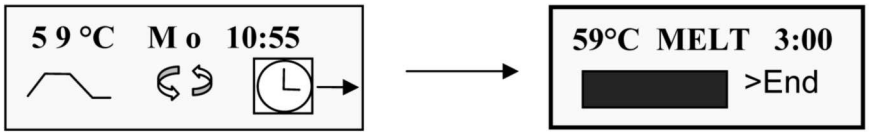
1.Make sure that the front panel I/O switch is OFF.
2.Turn on the water supply and check for leaks in the system
3.Connect the ac power cord to the local power supply.
4.Turn the front panel switch to the ON position.

The Automelt powers up and displays:



1. While the water jacket is filling adjust the water pressure regulator to read 0.35kg/cm² (5 psi) on the gauge.
2. Check for leaks.
3. When the water jacket reaches the liquid level switch the water flow stops and the heater and gear motor are now operational.
4. The water jacket is now heated to and maintained at a hold temperature of 59°C (138°F) which is the factory recommended setting.
5. Set the day and time to the correct local time:
   Press the **Set** key 2 times – the day is blinking
   Use the **up** or **down** key to change to correct day
   Press the **F3** key to store – the hours of the time are blinking (24 hr format)
   Use the **up** or **down** key to change the hours
   Press the **F3** key to store - the minutes of the time are blinking
   Use the **up** or **down** key to change the minutes
   Press the **F3** key to store

STARTING A MELT CYCLE:



It is recommended that the length of the melt time be set at 3 hours and the length of the cool down time be set at 2½ hours. Both, the melt time as well as the cool time constitute a **Melt Cycle**.

The **Melt Cycle** is factory set for 3 hours and the **Cool Down Cycle** is factory set for 2½ hours.

- Press the F1 key on the front panel control to start the **Melt Cycle**.
  The display shows a bar graph on the lower line. After each ½ hour of operation a section of the bar is removed from the display. This will aid the operator in determining the progress of the **Melt Cycle**.

A countdown timer located on the right upper side of the digital display will indicate the time left of the **Melt Cycle**.

- During the **Melt Cycle** the duplicating material is heated to 98°C (208°F).
- After 3 hours the **Cool Down Cycle** begins.
  The water jacket is periodically filled with cool water to ensure an even cooling of the dispensing material during this time. When the **Cool Down Cycle** has been completed, the Senior Automelt will automatically maintain the duplicating material at a temperature of 59°C (138°F).

ERRORS:

Remove Power Motor	*Remove Power* Thermocouple
The controller did not receive feedback from the agitation motor. Check the motor wiring. Press the F2 key while in the holding mode.	The controller detected a signal absence from the water temperature sensor. Replace with N9357187.

Remove Power Heater	98˚ MELT 2:30 Power Failure
The controller did not detect current flow through the immersion heater. Replace with N9357184 for 120V units and N9357185 for 230V units.	A power failure occurred during the **Melt Cycle**. After power return the Automelt automatically restarted a new melt cycle. The message will disappear after completion of the cycle.

WARNING:
The SENIOR AUTOMELT is designed with safety features to protect the operator and must not be modified in any form. Only qualified individuals should repair this piece of equipment. Failure to observe these precautions may result in burns or electrical shock.

SAFETY:

Two methods of product service are available:

- Telephone assistance available at the number listed below.
- Return the unit for servicing using the instructions below.

BEFORE RETURNING THE UNIT:

- Call DENTSPLY for a PR (Product Return) number. This is used to track and identify your unit. Equipment received without this number may not be identifiable.
- If you do not have the original packaging, please request replacement packaging to ensure the unit is not damaged in shipment.
- Secure top section in down position using original rubber bands supplied with the original packaging.
- Equipment damaged in shipment as a result of improper packing may not be paid by the carrier.

DENTSPLY will not be responsible for damages resulting from improper packing.

Ship prepaid to:
DENTSPLY Prosthetics
ATTN: Equipment Repair
PR Number _____
470 West College Ave.
York, PA 17401
Phone: 800.835.6639 Option #1 (US Customers)
717.849.4502 (International Customers)
Fax: 717-849-4238
Email: YorkPa-Prosthetics-Equipment-Repair@dentsply.com

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Manufacturer:
DENTSPLY International Inc.
DENTSPLY Austenal
570 West College Ave.
York, PA 17401
1-800-243-1942
prosthetics.dentsply.com

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