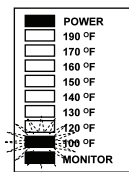
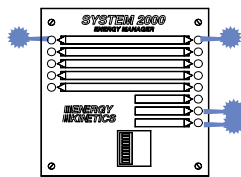


TROUBLESHOOTING THE BOILER WITH THE DIGITAL MANAGER

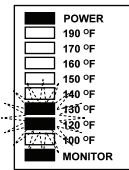
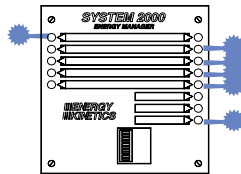
Flashing Light indicates that Digital Manager has detected a problem.

Monitor light comes on after a pre-determined period of time during which the system attempts to recover.



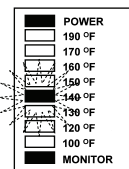
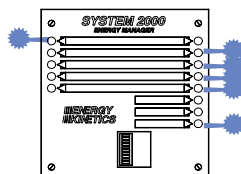
- 100° Light Flashing
- Monitor Light ON

- ✓ 100° Light flashes if digital temperature sensor is not working properly.
- ✓ Check Sensor wiring. *Check lead for damage, Check connection between Quick Connector and Manager.*
- ✓ Digital Energy Manager will function in service board mode. **Circulator and inducer run constantly**, burner runs on high limit aquastat. All inputs turn on respective outputs.
- ✓ If Manager is left in this mode, *reset limit aquastat to 165°/180° F.*



- 120° light flashing
- 130° light flashing
- Monitor light ON

- ✓ Digital Energy Manager detected a problem.
- ✓ 120° light flashing: Freeze condition was detected.
- ✓ 130° light flashing: Excessive temperature condition. Zones could not extract heat from boiler. *Check zone valves, heat exchanger and boiler circulation. High limit aquastat may not be functioning.*



- 140° light flashing
- Monitor light ON

- ✓ Digital Energy Manager detected a problem.
- ✓ 140° light flashing: Burner failure or boiler circulation failure. *Boiler return temperature has not increased enough to open zones in 20 minutes for fuel oil (80 minutes if option switch #1 is ON)*
- ✓ **Does Primary Control need to be reset?**
 YES: Troubleshoot as standard burner lockout.
 NO: **Did homeowner reset control?**
 YES: Troubleshoot as standard burner lockout.
 NO: Reset Manager. Run through standard heat cycle.
- ✓ **Does boiler return heat up properly?**
 NO: Check circulator. Possible closed or blocked bypass.
 YES: Intermittent problem. Check low voltage wiring for tightness from Manager through relay board and cad cell relay to TT. Check line voltage at burner, in and out of cad cell relay. Check limit aquastat for proper operation. See if burner/main circulator relay is properly plugged in and working properly.

TO RESET MANAGER The Manager can be reset to normal operation by turning the system switch off and back on.

WARNING: Do Not Jump! If you apply 24VAC to any digital sensor lead with the sensor connected to the Manager, you will burn out both the sensor and the Manager in less than a second.

OPERATION OF BOILER WITHOUT THE DIGITAL MANAGER

SERVICE BOARD MODE:

The Digital Manager can be placed into "SERVICE BOARD MODE" by turning off the system switch and removing the RED temperature sensor lead from the left side input connector, and turning power back on. Removing the RED lead does exactly the same thing as inserting the traditional green "Service Board". The traditional service board may still be used if desired. SERVICE BOARD MODE allows the boiler to run like a conventional boiler. The burner is controlled by the high limit aquastat and the circulator runs continuously. If this mode is used, *temporarily reset high limit aquastat to 165°/180° F.*

TEMPORARY OPERATION WITH JUMPERS

(with partially functional Manager still in place and without service board)

If a particular function of the Manager fails, use appropriate jumper action below *with Manager in place.*

BURNER: Jumper BB or TT on burner control. Burner will run on limit whenever Manager calls circulator. The boiler may overheat slightly during energy recovery. Temporarily reset limit aquastat to 165°/180° F.

MAIN CIRCULATOR: Remove blue CIRC lead from right side and connect to A2 on the left side, using an extension lead. The circulator will run constantly and the burner runs on Manager call.

ZONE/HOT WATER CONTROL: Remove zone valve and thermostat leads for zone. Connect a thermostat lead to A1. Connect a zone valve lead to A2. Wire the remaining thermostat and zone valve leads together. Zone valves will open whenever the Thermostat calls but it will not activate manager. If system is active, zone will receive heat when another calls or run system with high limit aquastat set to 165°/180° F and zone will get heat on call.

IF A PLUG-IN RELAY FAILS: Replace with spare relay. If spare is not available, temporarily install a relay with 24VAC coil and 120VAC contacts. Contact Energy Kinetics for connection details.

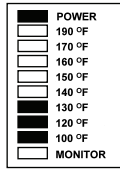
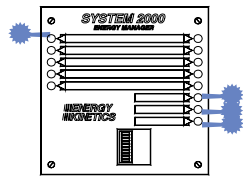
BOILER OPERATION DIAGNOSTICS USING THE DIGITAL MANAGER

Manager Lights

Temperature

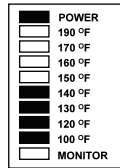
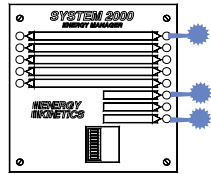
Description

DIAGNOSIS



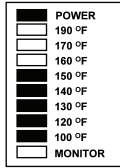
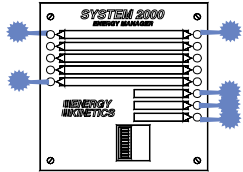
- (1) Normal Operation
- Thermostat calling
 - No Zone output lights

- Preheat cycle – zones will open when boiler return is above 140° F (150° F if option switch 1 is on).
- Return temperature dropped during call. Zones close until boiler is up to temperature.



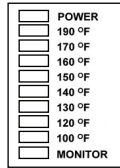
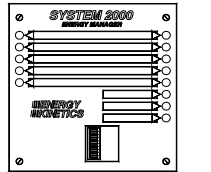
- (2) Normal Operation
- No Thermostat Call
- Zone Outputs On
 - Circulator On

- Energy Recovery cycle will run until time or return temperature is reached. (See option switches 5 through 8.)



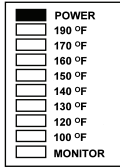
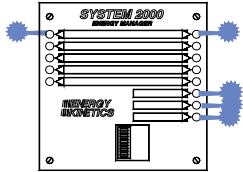
- (3) Normal Operation
- Hot Water Calling
 - Thermostat Calling
 - Only Output zone is hot water

- Check option switch 10, hot water priority. “ON” sets up to 25 minutes priority to hot water zone, then other calling zones open.



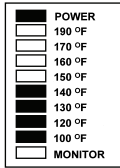
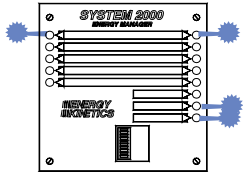
- (4) Problem
- No Lights on Manager

- Check Main Power
- Check Transformer for 24 volts
- Check A1, A2 terminals on Manager for 24 volts



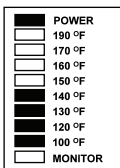
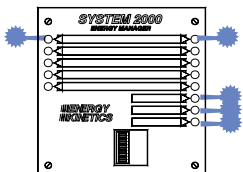
- (5) Problem
- Burner Light On
 - Burner Not Running

- Check boiler temperature and high limit aquastat. Set higher for test. Check for boiler circulation failure.
- Check burner for power in.
- Check burner and/or cad cell relay. Reset if necessary. If still no heat, jumper TT terminals on burner relay to test burner.



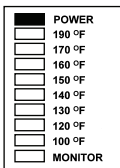
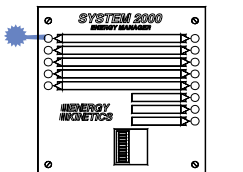
- (6) Problem
- Inducer Light does Not come on

- Check option switch 2:
“ON” = Power Venting
“OFF” = Chimney Venting



- (7) Problem
- Zone Output Light On
 - Zone Valve does not open

- Check for 24 volts between 24VAC common and zone in question.
- Check zone valve or circulator on zone calling for operation.



- (8) Problem
- Dim light on thermostat calling.

- A dull yellow light is common with a power-stealing thermostat. It is not a call for heat and may cause erratic operation of outputs.

- **Burner Restart:** A two (2) minute delay is built into the control. (45 seconds for a Hot Water call).
- **Reset the Digital Manager** by turning system switch off and back on again.
- **WARNING:** Do Not Jump! If you apply 24VAC to any digital sensor lead with the sensor connected to the Manager, you will burn out both the sensor and the Manager in less than a second.
- **Service Board Mode-** With power off, remove the RED lead of the temperature sensor.
- **A Service Board for temporary operation without Manager is available. This is interchangeable with the Classic and Digital Managers. Rebuilt Managers are available for nominal rebuild charge and require the return of a Manager (Manager must be re-buildable).**

Products
A
Concept
B-1
Oil Heat Install
B-2
Gas Heat Install
C
Venting
D
Diagnostics
E
Digital Manager
F
Classic Manager
G
Wiring-General
H
System Piping
J
Dom. Piping & Pool Appl.
K
Maintenance

NOTES
