



Electrolux

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Issue 1

ELECTROLUX HOME PRODUCTS PTY LTD

Diagnostics of ERF2003 PCB with display used on Bottom Mount and French door Rayong Products

Diagnostic Mode

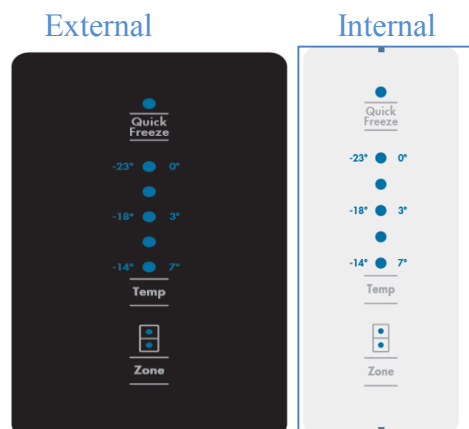
When diagnostic mode is entered, the current state of the refrigeration system and other components can be displayed on the user interface.

- 1) Diagnostic Mode is entered by touching the "Temp" button 3 times during power on sequence. Buzzer will beep twice.
 - 2) The display will show the items in the sequence described below, pressing "Temp" button to go to the next step.
 - 3) Display will be in awake mode for minimum of 10 minutes regardless of if door is closed.
 - 4) Diagnostic mode is deactivated by progressing through the complete diagnostic procedure.
 - 5) Once stepped out of diagnostic mode a Service defrost will be performed. Buzzer will beep twice.
- **SERVICE DEFROST** = 3 Minutes minimum heater on if sensor is above 12 degrees and 30 Minutes Maximum heater on if sensor is below 12 degrees
 - Diagnostics will Auto exit out of diagnostic mode after 10 minutes, if no buttons are pressed

Stages

DIAG_START

- 1) COMPRESSOR
- 2) LIGHTING
- 3) DAMPER_CHECK_OPEN
- 4) EVAPORATOR TEMP SENSOR
- 5) TEMP SENSORS "NTC"
- 6) DAMPER CHECK CLOSED
- 7) HUMIDITY (where Fitted)
- 8) NUTRILIGHT (where fitted)
- 9) Display UI_HARDWARE
- 10) SERVICE DEFROST



1. Compressor

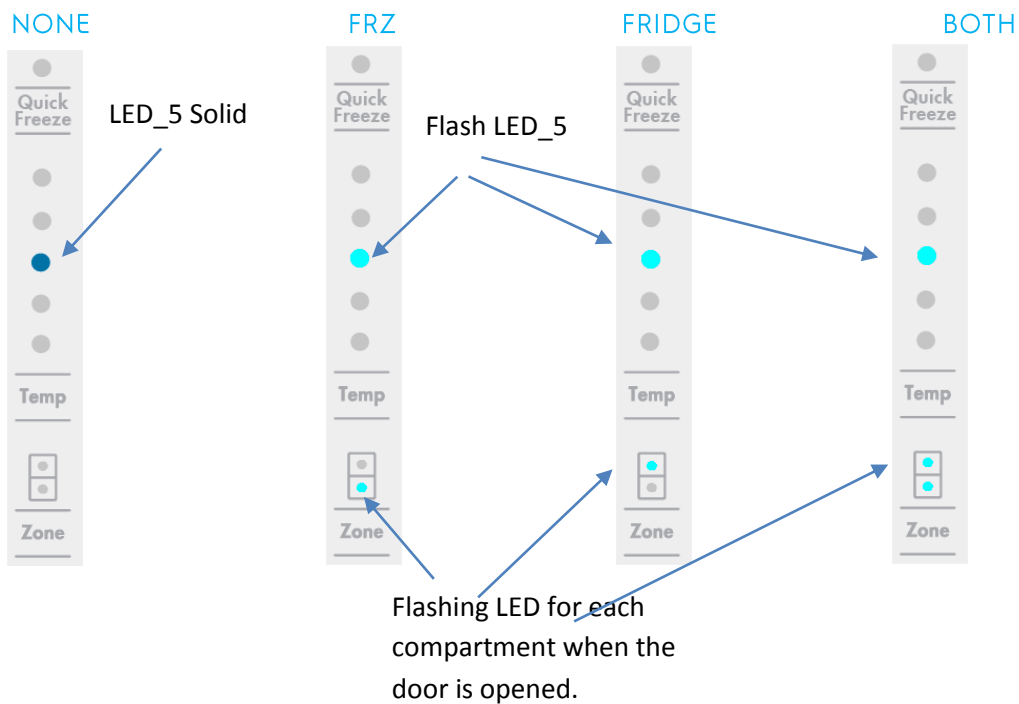


Compressor and Condensor fan (If fitted) are on.
Press **"Temp"** button to progress.

2. Lighting

LED_5 will be 100% brightness to show currently in lighting step of Diagnostic. LED_5 will flash (with 1sec timing) and the compartment lights will turn on when the door is opened. Zone LED will flash to show which door is opened.

Press **"Temp"** button to progress.



3. Baffle Open/ Fan On



Check for air flow, Press “Temp” button to progress.

4. Defrost Termination Sensor

If DTS is Open Circuit or Short Circuit LED_6 will Flash with 1sec timing. If working LED_6 will be solid on.



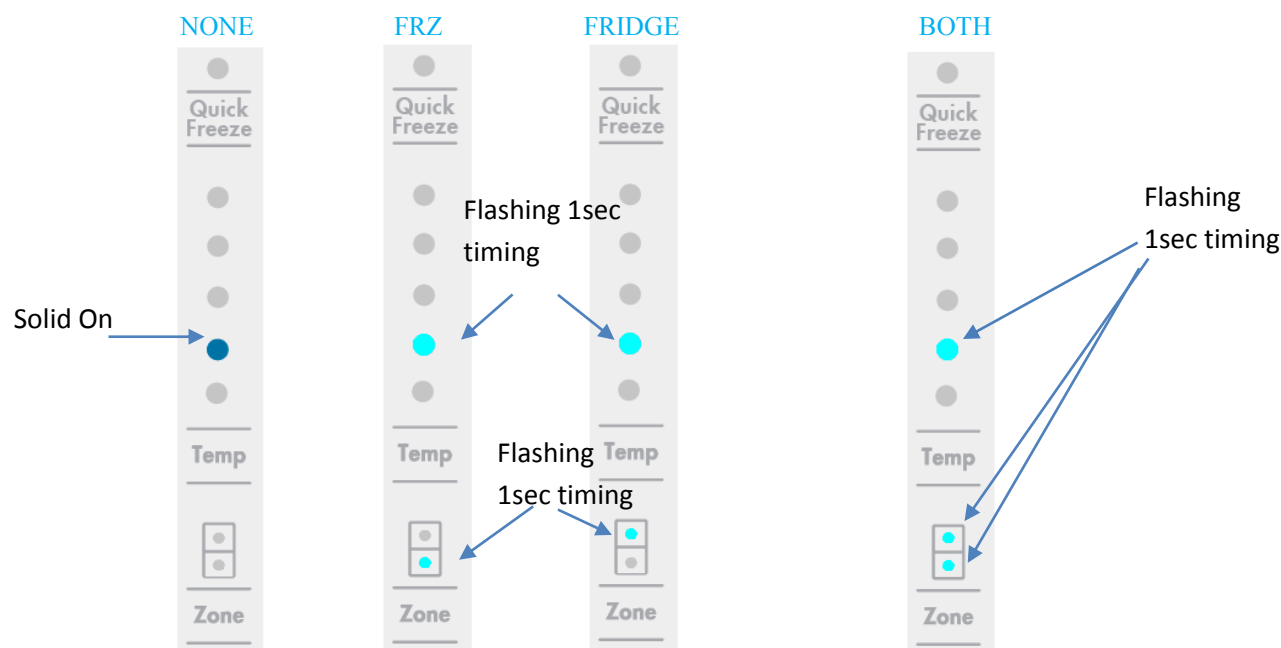
Flashing - faulty

Solid - Working
Correctly

Press “Temp” button to progress.

5. Temperature Sensor

LED_4 will be 100% brightness to show in Sensor check step of Diagnostic. LED_4 will flash (with 1sec timing) if Sensor is Faulty. Zone LED will flash to show in which compartment the sensor is faulty.



Press "Temp" button to progress.

6. Baffle Closed / Fan On

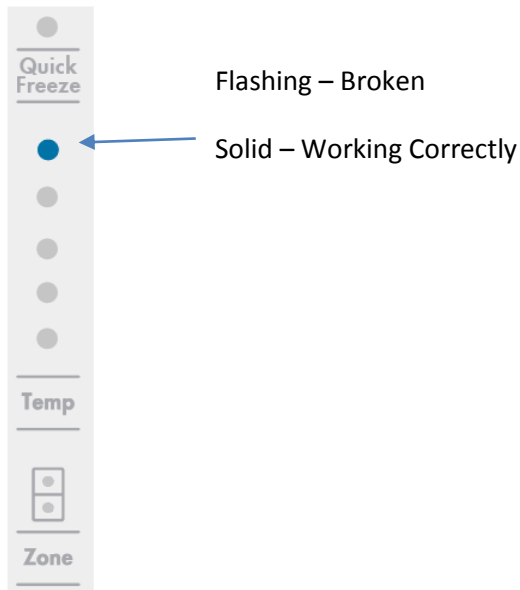


. Press "Temp" button to progress.

7. Humidity Sensor (where Fitted)

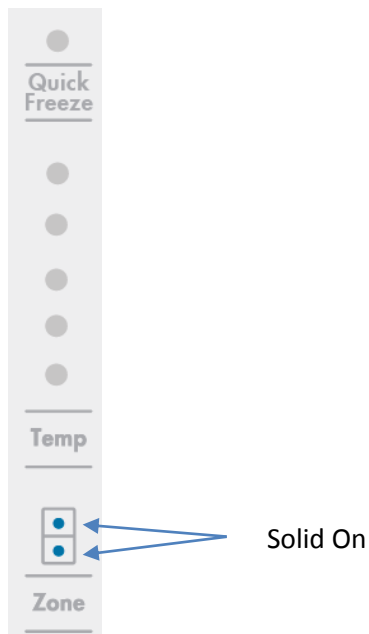
If Humidity Sensor is Short Circuit, Open Circuit, Invalid (Ambient sensor out of Range or Broken [OC,SC]) LED_7 will Flash with 1sec timing. If working LED_7 will be solid.

Press “Temp” button to progress.



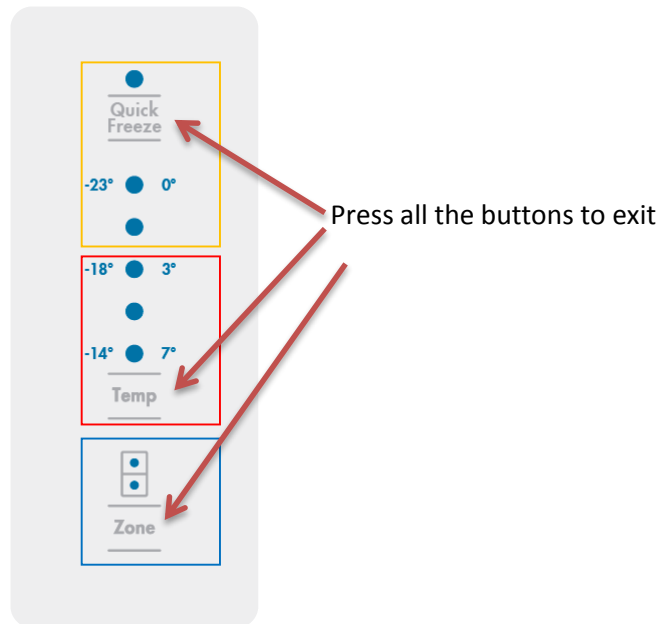
8. NutriLight (where Fitted)

Fridge light is turned off (and white LEDs) regardless of door state. Yellow LEDs are turned on. Press “Temp” button to progress.



9. Display

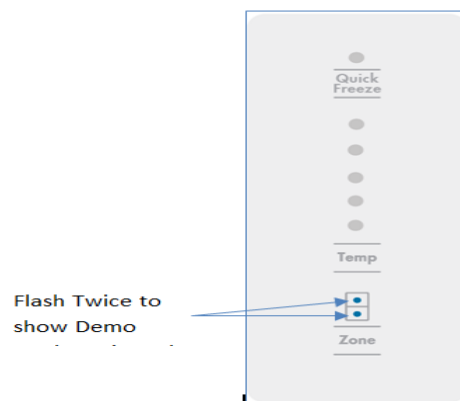
All LED's are displayed at 100% brightness. Press each key, each press will turn off the LEDs for that Region. Diagnostic will Exit and a Service Defrost will initiate (heater 3 mins drip 4 mins.)



Demo Mode

If demo mode is selected, the compressor, evaporator fan, baffle, defrost heater, and condenser fan are turned off. This mode is used for showroom demonstration of the user interface & lighting, with no refrigeration active.

Demo mode can be activated by touching & holding the "QuickFreeze" and "Zone" buttons together for 5 seconds, within 12 seconds of starting the unit. Buzzer will beep (LONG_BEEP - 0.5sec). LED_1 and LED_2 Flash Twice with 0.5sec timing (2sec total, 0.5sec Up and 0.5sec Down) when activated, and whenever door is opened. It will then operate as per normal operation. Demo mode is deactivated by restarting the unit.

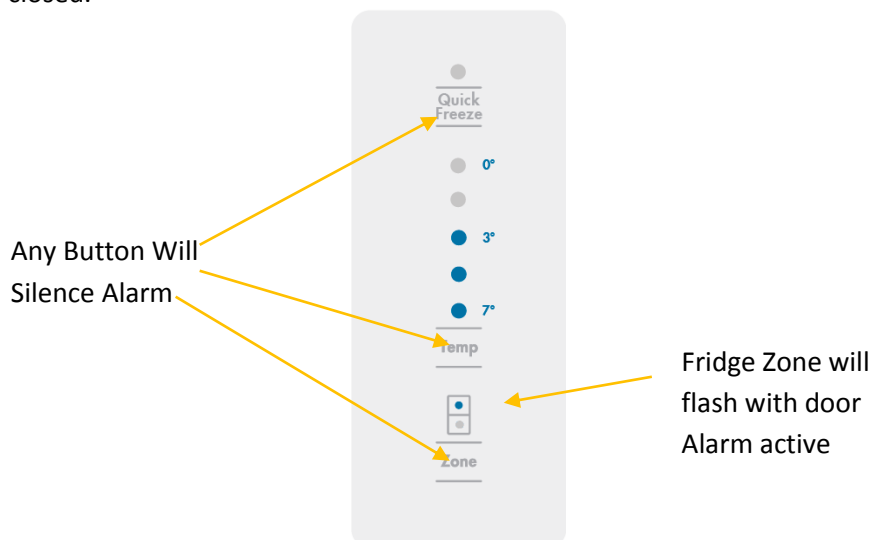


Fault codes And Alarms

Fridge Door Alarm

If the fridge door is left open for longer than 2 minutes

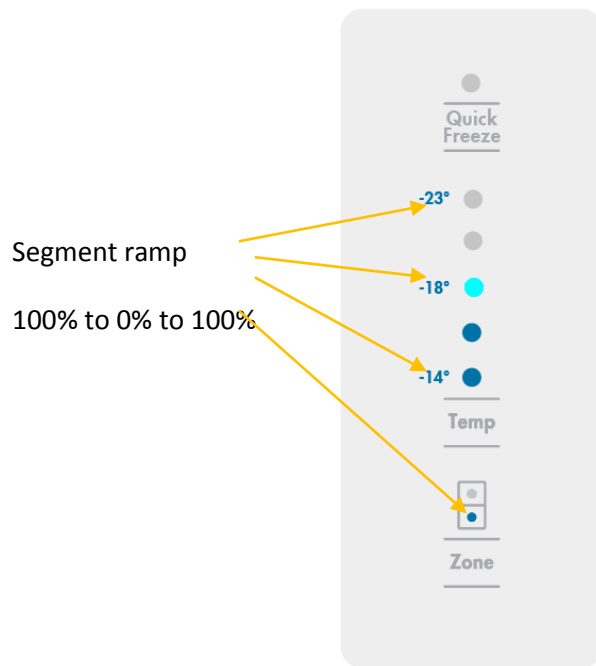
1. The buzzer on PWB will sound the alarm (See Power Board Spec)
2. LED_2 (Fridge Zone) will flash (100% to 0% to 100%) every 1sec (ramp up = 0.5sec, Ramp down = 0.5sec).
3. Press “**Door Switch**” or close the door will stop alarm.
4. Press ANY button to silence alarm. Alarm sound will mute for 8 minutes if the door still open. LED_2 (Fridge Zone) will continue to flash (100% to 0% to 100%) every 1sec until door is closed.



Freezer Temperature Alarm

After the power has been On 215 minutes, if the freezer compartment becomes too warm (temperature in the freezer warmer than 10°C above the setting point for 50 minutes, this will not include defrost period) e.g. due to the freezer door being left open or warm food is being placed too close to the temperature sensor.

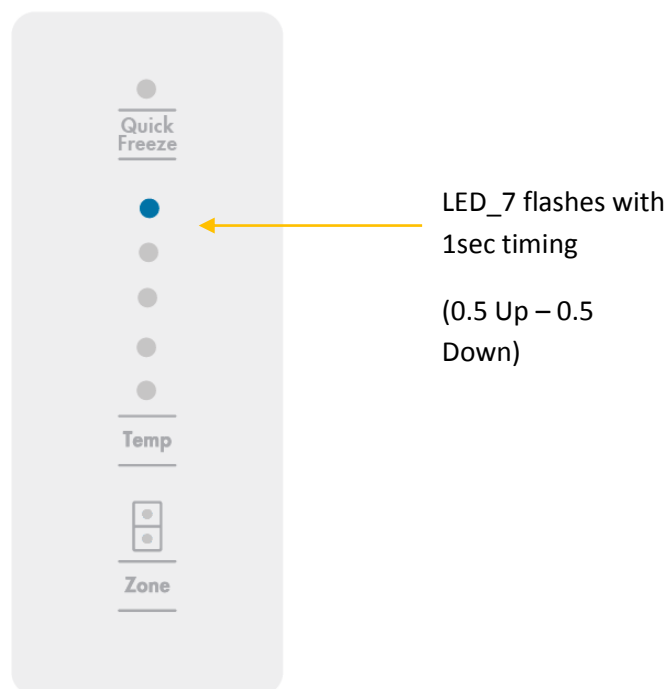
1. The buzzer on PWB will sound the alarm (See Power Board Spec)
2. LED_1 (Freezer Zone) and LED 12 - LED_14(Temperature icons) will flash (100% to 0% to 100%) every 1sec (ramp up = 0.5sec, Ramp down = 0.5sec).
3. Alarm is reset by pressing ANY button. Once pressed the alarm beep is muted for 1hour but LED_1 (Freezer Zone) and Temperature icons will continue to flash until the temperature reaches an acceptable level.
4. The over temperature alarm can be silenced for 12 hours by touching and holding ANY button for 3 seconds when a second beep sounds. The LED_1 (Freezer Zone) and Temperature scale will continue to flash and the alarm icon stays on until the temperature reaches an acceptable level.
5. You can change the temperature setting and other functions but display will reverse back to show Freezer temperature alarm (LED_1 [Freezer Zone] and Temperature icons flashing) until the temperature reaches an acceptable level.



Communication Error

A Commutation Error means the UI has lost contact with the main Power Board. When there is a communication error temperatures cannot be updated and Quick Chill cannot be activated. Flash LED_7 to show there is a communication error. The appliance will operate at its last known setting.

LED_7 will flash (100% to 0% to 100%) every 1sec (ramp up = 0.5sec, Ramp down = 0.5sec).



9.2 Sensor Fault

If an error has been detected on a sensor, display the corresponding fault on the UI after 10sec of no key press or in sleep mode. (So if there is a sensor fault the relative LED will blink also in sleep mode) This could be either Open Circuit or Short Circuit conditions. If a button is pressed, it is possible to change setting but after 10 sec it comes back to sensor fault visualization. If (during the sensor fault visualization) we activate Quick Chill function, the LED_8 will light on. After 10 sec, the visualization will revert back to sensor fault and LED_8 will turn off, while LEDs will blink according to the NTC error.

- LED_4 and LED_1 will flash for failure of Freezer sensor.
- LED_4 and LED_2 will flash for failure of Freezer sensor.
- LED_6 will flash for a failure of the DTS.
- Combinations of LEDs will flash if there is a failure of more than one sensor.

The LED will flash (100% to 0% to 100%) every 1sec (ramp up = 0.5sec, Ramp down = 0.5sec).

