FOR SERVICE TECHNICIAN'S USE ONLY

NOTE: This sheet contains important Technical Service Data.

W11446054A Tech Sheet Do not Remove or Destroy
810F950001371

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

Voltage Measurement Safety Information

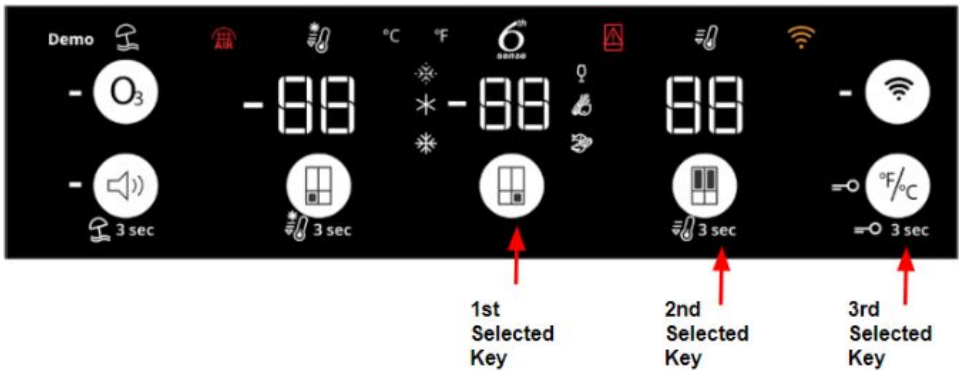
When performing live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

Component Specifications

Component	Specifications all parts 115VAC/60HZ unless noted
Cooling	
Compressor VEMX11	Volt.....115 VAC Capacity.....921 BTU/H (270 W) Watt .....144 watts Current lock rotor .....1 amp Current full load.....1.1 amp Resistance run windings.....9.6 ohms
Electric damper control	Voltage..... 12.7V Temperature rating.....-11ºF/110ºF Steps to Open.....1750 Steps to Close.....1850 Step Angle..... 90°
Condenser fan motor	Voltage..... 12.7V Rotation.....Counterclockwise (facing end opposite shaft) Max RPM.....3450 RPM Watt.....4.2 watts
Freezer evaporator fan motor	Voltage..... 12.7V Rotation.....Counterclockwise (facing end opposite shaft) Max RPM.....3450 RPM Watt.....4.2 watts
Freezer evaporator heater	Voltage.....115 VAC Watt.....180 ± 5% watts
Thermistors	Voltage..... 12.7V Sensor Rating…….....NTC 2.7 kΩ ± 3% Max Current…….. 5 mA Max Temperature reading……70℃ Min Temperature reading…….-50℃
Ice Maker	Volt.....115 VAC Max Current .....3A Water Supply Signal……..12 Sec/104cc Freezing Time…….90 Minutes Freezing Temperature…….....-8.9°C
Water Valve	Volt.....115 VAC Outlet Flow Rate…….65cc/7.5 seconds Quick Connect Fitting.....6.35 O.D Coil Rating.....120VAC 50/60Hz35W Valve Type…….. Direct Acting

Appliance Troubleshooting



To **ENTER** Diagnostics Mode:
To enter the diagnostic mode, the following action must be performed on the interface:

Sequence of any three unique keys, three times within 8 seconds.

- Press and Release the **1st selected** key
- Press and Release the **2nd selected** key
- Press and release the **3rd selected** key
- Repeat this 3 key sequence 2 more times.

To **EXIT** Service diagnostics,

- **1st selected key** on the HMI is pressed and held for 5 seconds, OR
- Cycle Power on the appliance.

NOTE: The appliance shall exit Diagnostics Mode after 5 minutes of inactivity.

The appliance can display at up to 5 error codes in order to priority, or occurrence.

To **NAVIGATE** through the error codes, press the **3rd selected** key. The following shall happen:

➔ You shall hear a tone every time you navigate through an error code.

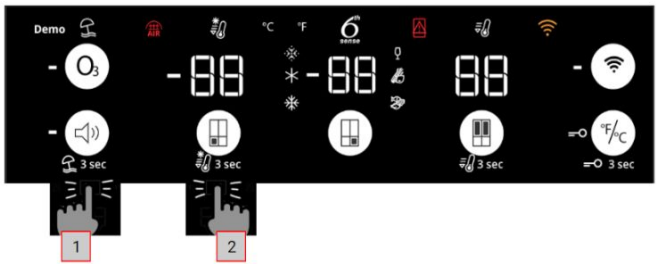
➔ The User Interface shall display the most recent Fault Code.

➔ For every additional press of the **3rd key**, the User Interface shall step to the next most recent fault code. If no additional fault codes exist, the User Interface shall activate the speaker for three beeps and display the first fault code again.

To **RESET** the error codes, press the **3rd selected** key for 5 seconds.
After Resetting the Error Codes, you shall see 0000 displayed on the User Interface.

Designation	Fault Code	Error Code Reference
Analog Temperature Sensors	F3E1	Refrigeration Compartment Temperature Sensor
	F3E2	Freezer Compartment Temperature Sensor
	F3E3	Convertible Compartment Temperature Sensor
	F3E4	Freezer Compartment or Main Evaporator In Sensor
	F3E5	Freezer Compartment Evaporator Out Sensor
	F3E6	Refrigeration Compartment Evaporator In Sensor
	F3E7	Convertible Compartment Evaporator In Sensor
	F3E8	External RH Sensor (Should combine Together with Amb temp sensor)
	F3E9	Ambient Temperature Sensor
Heaters & Air Flow	F4E1	Freezer Compartment or Main Evaporator Heater
Communication System	F6E1	Comm Failure Between ACU 1 and HMI 1
Motor / Drive System & Compressor	F7E1	Compressor Not Functioning
FA Actuators	FAE1	Refrigeration Compartment or Main Evaporator Fan
	FAEd	RC Damper 1 - Blocked Duct Fail
	FAE6	CC Damper 2 - Blocked Duct Fail
No Error	0000	No Error

Appliance Service Steps



Service mode requirement	Button on Main UI
Enter Service Key Combination	" " and " " buttons for 3 seconds
Enter Key for Navigation	" " Button
Increment Key for Navigation	" " Button
Decrement Key for Navigation	" " Button
Back Key for Navigation	" °C-°F " Button
Degree C LED Indicator	"°C" indicator
Degree F LED Indicator	"°F" indicator

To Exit Service Mode, use °C-°F Key to back out of functional test. Press and hold and buttons simultaneously for 3 seconds.

NOTE: If a test or mode runs over "99" on the display, the User Interface will flash digit 1 for one second, and then display digit 2.

The number will display. i.e. "100" will display "1" first for one second, then display "00". "101" will display "1" first for one second, and then display "01", etc.

Service Test - 00 Exit Service Mode

- This step is an alternative method to exit service mode and return to Normal Operation.

Service Test - 01 RC Thermistor

- Read RC compartment Temperature. SH indicates "shorted" thermistor, OP indicated "open" thermistor.

Service Test - 02 Freezer Thermistor

- Read Freezer compartment Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 04 Freezer Evaporator Thermistor

- Read FC evaporator Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 12 Ambient Temperature Thermistor

- Read Ambient Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 18 CC Thermistor

- Read CC compartment Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 39 Compressor Speed Change with Ramp

- Control the Compressor Speed. When entering Service Test the compressor turns off if it was previously on.
- Select the power from 0 to 160W by pressing "-" or "+." After pressing "Enter" the compressor will ramp up to the selected power.
- After changing the power button to 0W, the compressor will shut off after 2.5 minutes.

Service Test - 40 Compressor and Compartment Freezing Cooling Test

- When entering the service test, compressor runs at max power and shall only be turned off after leaving the service step.

Service Test - 41 Refrigerator Air Baffle/Damper State

- When entering Service Test, the damper continuously turns, showing the state in the numeric display.
- Possible position readings: 00 – Air baffle in open position, 02 – Air baffle in closed position.

Service Test - 43 CC Air Baffle/Damper State

- When entering Service Test, the damper continuously turns, showing the state in the numeric display.
- Possible position readings: 00 – Air baffle in open position, 02 – Air baffle in closed position.

Service Test - 44 RC Compartment Lighting

- When entering Service Test, the Refrigerator Compartment Lights turn on. The display shows “ON.”

  When leaving Service Test the Refrigerator Compartment lights turn off.

Service Test - 56 FC Fan Test

- When entering Service Test, the Freezer Fan turns on. The display shows “ON.”
- When leaving Service Test, the Freezer Fan turns off.

Service Test - 63 Vertical Mullion Heater Test

- When entering Service Test, the Vertical Mullion Heater turns on. The display shows “ON.”
- When leaving Service Test, the Vertical Mullion Heater turns off.

Service Test - 73 Right RC Door Switch State

- “00” Identifies door open and “01” identifies door closed.

Service Test - 75 FC Door Switch State

- “00” Identifies door open and “01” identifies door closed.

Service Test - 89 Run FC Defrost Heater

- When entering this Service Test, defrost heater turns on and stays on for 5 minutes or until the evaporator thermistor goes above 60°F.
- “ON” will be displayed while the operation is executed.

Service Test - 91 Run a Forced Defrost

- Activates the forced defrost.
- When “ON” is selected and exiting Service mode, defrost will be executed.
- When “OFF” is selected and exiting Service mode, defrost will NOT be executed. To advance between control mode “ON” or “OFF” Use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 92 Turn All UI LEDs ON

- When entering Service Test all indicators and buttons will light up in the two UIs.
- The icons turn automatically off after 30 seconds.

Service Test - 104 Read Humidity Measurement

- Displays measured humidity as a percentage.

Service Test - 140 Main Control Board SW Version Number – XX.YY.ZZ

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

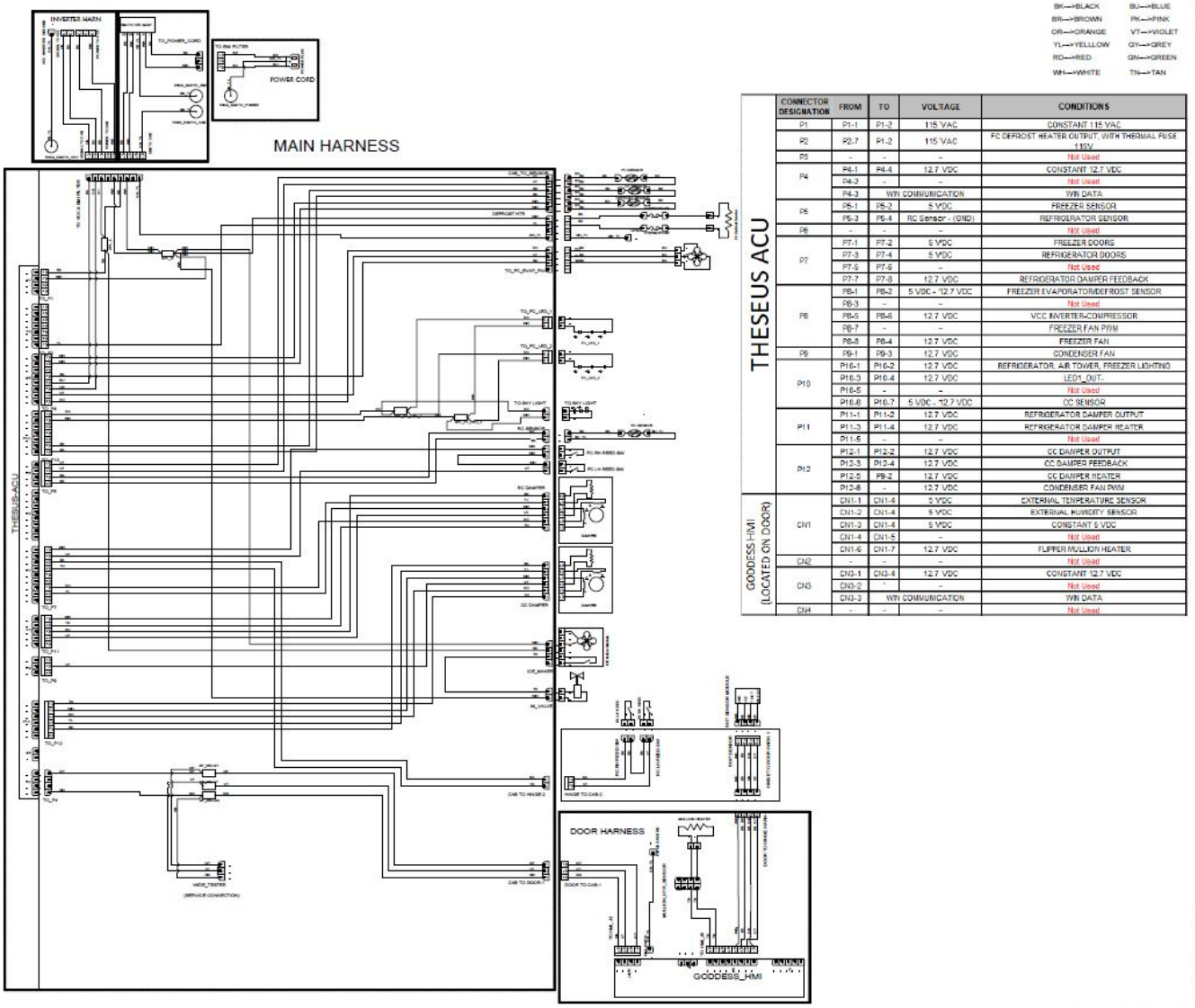
Service Test - 142 Main Control Board Setting File Number – XX.YY.ZZ

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 142 User Interface Board SW Version Number – XX.YY.ZZ

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Wire Diagram



BK—>BLACK
BR—>BROWN
OR—>ORANGE
YL—>YELLLOW
RD—>RED
WH—>WHITE
BU—>BLUE
PK—>PINK
VT—>VIOLET
GY—>GREY
GN—>GREEN
TN—>TAN

	CONNECTOR DESIGNATION	FROM	TO	VOLTAGE	CONDITIONS
THESEUS ACU	P1	P1-1	P1-2	115 VAC	CONSTANT 115 VAC
	P2	P2-7	P1-2	115 VAC	FC DEFROST HEATER OUTPUT, WITH THERMAL FUSE 115V
	P3	-	-	-	Not Used
	P4	P4-1	P4-4	12.7 VDC	CONSTANT 12.7 VDC
		P4-2	-	-	Not Used
		P4-3	WIN COMMUNICATION		WIN DATA
	P5	P5-1	P5-2	5 VDC	FREEZER SENSOR
		P5-3	P5-4	RC Sensor - (GND)	REFRIGERATOR SENSOR
	P6	-	-	-	Not Used
	P7	P7-1	P7-2	5 VDC	FREEZER DOORS
		P7-3	P7-4	5 VDC	REFRIGERATOR DOORS
		P7-5	P7-6	-	Not Used
		P7-7	P7-8	12.7 VDC	REFRIGERATOR DAMPER FEEDBACK
	P8	P8-1	P8-2	5 VDC - 12.7 VDC	FREEZER EVAPORATOR/DEFROST SENSOR
		P8-3	-	-	Not Used
		P8-5	P8-6	12.7 VDC	VCC INVERTER-COMPRESSOR
		P8-7	-	-	FREEZER FAN PWM
		P8-8	P8-4	12.7 VDC	FREEZER FAN
	P9	P9-1	P9-3	12.7 VDC	CONDENSER FAN
	P10	P10-1	P10-2	12.7 VDC	REFRIGERATOR, AIR TOWER, FREEZER LIGHTING
		P10-3	P10-4	12.7 VDC	LED1_OUT-
		P10-5	-	-	Not Used
		P10-6	P10-7	5 VDC - 12.7 VDC	CC SENSOR
	P11	P11-1	P11-2	12.7 VDC	REFRIGERATOR DAMPER OUTPUT
		P11-3	P11-4	12.7 VDC	REFRIGERATOR DAMPER HEATER
		P11-5	-	-	Not Used
	P12	P12-1	P12-2	12.7 VDC	CC DAMPER OUTPUT
		P12-3	P12-4	12.7 VDC	CC DAMPER FEEDBACK
		P12-5	P9-2	12.7 VDC	CC DAMPER HEATER
		P12-6	-	12.7 VDC	CONDENSER FAN PWM
GODDESS HMI (LOCATED ON DOOR)	CN1	CN1-1	CN1-4	5 VDC	EXTERNAL TEMPERATURE SENSOR
		CN1-2	CN1-4	5 VDC	EXTERNAL HUMIDITY SENSOR
		CN1-3	CN1-4	5 VDC	CONSTANT 5 VDC
		CN1-4	CN1-5	-	Not Used
		CN1-6	CN1-7	12.7 VDC	FLIPPER MULLION HEATER
	CN2	-	-	-	Not Used
	CN3	CN3-1	CN3-4	12.7 VDC	CONSTANT 12.7 VDC
		CN3-2	-	-	Not Used
		CN3-3	WIN COMMUNICATION		WIN DATA
	CN4	-	-	-	Not Used

	CONNECTOR DESIGNATION	FROM	TO	VOLTAGE	CONDITIONS
THESEUS ACU	P1	P1-1	P1-2	115 VAC	CONSTANT 115 VAC
	P2	P2-7	P1-2	115 VAC	FC DEFROST HEATER OUTPUT, WITH THERMAL FUSE 115V
	P3	-	-	-	Not Used
	P4	P4-1	P4-4	12.7 VDC	CONSTANT 12.7 VDC
		P4-2	-	-	Not Used
		P4-3	WIN COMMUNICATION		WIN DATA
	P5	P5-1	P5-2	5 VDC	FREEZER SENSOR
		P5-3	P5-4	RC Sensor - (GND)	REFRIGERATOR SENSOR
	P6	-	-	-	Not Used
	P7	P7-1	P7-2	5 VDC	FREEZER DOORS
		P7-3	P7-4	5 VDC	REFRIGERATOR DOORS
		P7-5	P7-6	-	Not Used
		P7-7	P7-8	12.7 VDC	REFRIGERATOR DAMPER FEEDBACK
	P8	P8-1	P8-2	5 VDC - 12.7 VDC	FREEZER EVAPORATOR/DEFROST SENSOR
		P8-3	-	-	Not Used
		P8-5	P8-6	12.7 VDC	VCC INVERTER-COMPRESSOR
		P8-7	-	-	FREEZER FAN PWM
		P8-8	P8-4	12.7 VDC	FREEZER FAN
	P9	P9-1	P9-3	12.7 VDC	CONDENSER FAN
	P10	P10-1	P10-2	12.7 VDC	REFRIGERATOR, AIR TOWER, FREEZER LIGHTING
		P10-3	P10-4	12.7 VDC	LED1_OUT-
		P10-5	-	-	Not Used
		P10-6	P10-7	5 VDC - 12.7 VDC	CC SENSOR
	P11	P11-1	P11-2	12.7 VDC	REFRIGERATOR DAMPER OUTPUT
		P11-3	P11-4	12.7 VDC	REFRIGERATOR DAMPER HEATER
		P11-5	-	-	Not Used
	P12	P12-1	P12-2	12.7 VDC	CC DAMPER OUTPUT
		P12-3	P12-4	12.7 VDC	CC DAMPER FEEDBACK
		P12-5	P9-2	12.7 VDC	CC DAMPER HEATER
		P12-6	-	12.7 VDC	CONDENSER FAN PWM
GODDESS HMI (LOCATED ON DOOR)	CN1	CN1-1	CN1-4	5 VDC	EXTERNAL TEMPERATURE SENSOR
		CN1-2	CN1-4	5 VDC	EXTERNAL HUMIDITY SENSOR
		CN1-3	CN1-4	5 VDC	CONSTANT 5 VDC
		CN1-4	CN1-5	-	Not Used
		CN1-6	CN1-7	12.7 VDC	FLIPPER MULLION HEATER
	CN2	-	-	-	Not Used
	CN3	CN3-1	CN3-4	12.7 VDC	CONSTANT 12.7 VDC
		CN3-2	`	-	Not Used
		CN3-3	WIN COMMUNICATION		WIN DATA
	CN4	-	-	-	Not Used