⚠WARNING Electrical Shock Hazard

Death or serious injury can result from failure to follow these instructions.

- Service by a qualified service technician only.
- Disconnect power before servicing this product.
- Reconnect all grounding devices after service.
- Replace all parts and panels before operating.

Technical Data

Service Diagnostic Functions

⚠WARNING Service Technicians Only

Entering Service Diagnostics
Capacitive Touch....For Autofill Units: Water, Ice, Autofill.....For Kcup Units: Water, Ice, Light
Non-dispenser enter with Icemaker + Lock Controls
All other models enter with Water + Crushed + Cubed
The display will show 00 in the FZ temperature display and 00 in the FF temperature display.
All the components will turn off. 3-way valve will go home, dampers will go to closed position and temperature display shows 00 in each in each of the FZ and FF displays. LCD Display: Use the up and down buttons on the right to increment the 1's place to select the desired test. Press any key other than the temp adjust keys to run test. The test mode must be selected within 5 minutes of entering the diagnostic mode or it will time-out, normal refrigerator operation will resume. Once a test mode is selected, the display will show the results of the mode selected.

Run test 0016 to exit diagnostics and return to normal operation. The control will reset to normal operation if power is cycled.

Sabbath mode (to enter and exit):
Internal Water Models… simultaneously press: Door Alarm and Icemaker buttons for 3 seconds
Capacitive Touch models… simultaneously press: Lock and Light for 3 seconds
Single Serve Capacitive Touch Models… simultaneously press: Door Alarm and Light for 3 seconds
LCD Models… simultaneously press: Lock Controls and Light for 3 seconds

ELECTRICAL SPECIFICATIONS	GFE28/ PFD28/ PFE28/ CFE28	GNE29/ GYE22/ PYD22/ PYE22/ CYE22	GWE23/ PWE23/ CWE23/ ZWE23
REFRIGERANT CHARGE (R600A)	60g		
Thermistor kilo-ohm resistance @ 32 °F	16.3		
Defrost Thermal Fuses	171 °F		
Adaptive Defrost Control FF & FZ	96 hrs		
Electrical Rating	115VAC, 60Hz		

NO LOAD PERFORMANCE	
Control Position 37/0 and Ambient of 65°F to 90°F	
Run Time, % @ 65°F	30 to 55
Run Time, % @ 90°F	55 to 95

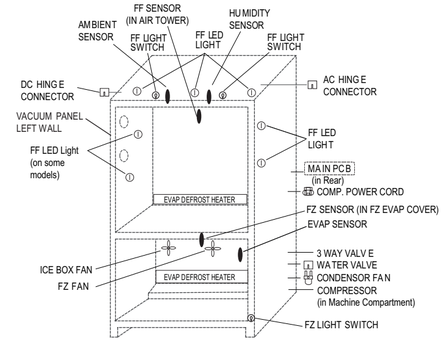
MODEL STATIC PRESSURES @, PSIG	55 - 90°F
29/28/23/22 Single Speed	10 – 20 psig

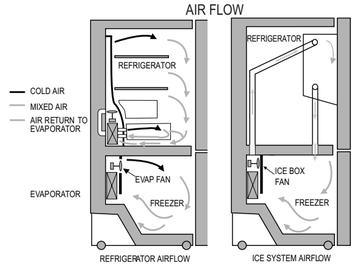
Navigating Fault Code Test (00 00)-

Café Models: press the up and down arrows to see multiple faults, 3 faults can be viewed at a time. The error codes will be listed in the first column, how many times it occurred in the second column, and how many days ago the error last happened in the third column. Press the back button to return to **00 00.**

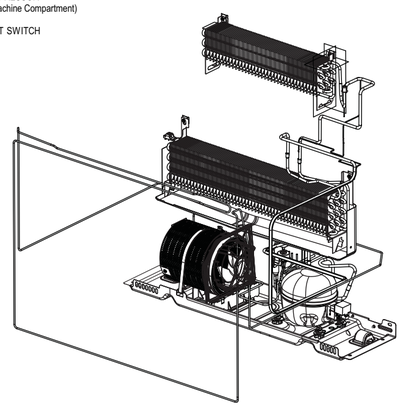
GE/Adora/Profile Models: the error code will be displayed first xx xx then how many times the error occurred xx **x**o and last how many days ago the error happened xx **x**d. Use the **Fridge** and **Door Alarm** buttons to scroll through errors. When you hear a different tone for the Fridge/Door Alarm buttons while scrolling there are no further errors. Pressing the **FZ /Icemaker** buttons will return to 00 00.

Profile Models with Keurig: the error code will be displayed first **xx xx** then how many times the error occurred xx **x**o and last how many days ago the error happened xx **x**d. Use the **Start Heating** and **Brew Size** buttons to scroll through errors. When you hear a different tone for the **Start Heating** or **Brew Size** buttons while scrolling there are no further errors. Pressing the **Fridge** or **Freezer** buttons will return to **00 00.**





All models with icemaker in the door.

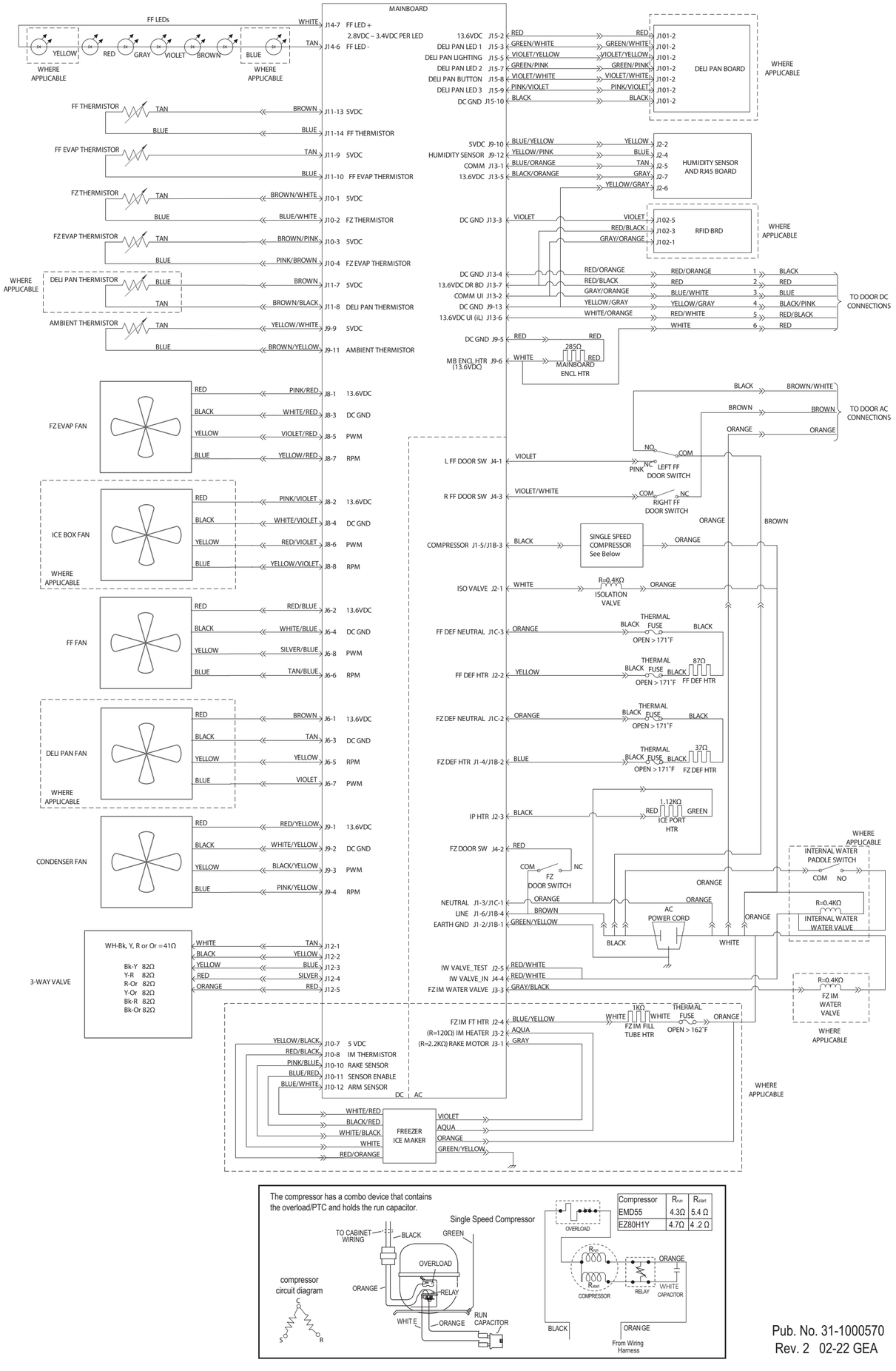


Group	Display	Failure Code Definition
Thermistors (1 – 99)	0 0 0 1	FF Thermistor reading out of range
	0 0 0 2	N/A
	0 0 0 3	FZ Thermistor reading out of range
	0 0 0 4	FZ Evaporator Thermistor reading out of range
	0 0 0 5	Electronic Deli Pan Thermistor reading out of range
	0 0 0 6	FF Evaporator Thermistor reading out of range
	0 0 0 7	N/A
	0 0 0 8	Ambient Temperature Thermistor reading out of range
	0 0 0 9	Ambient Humidity Sensor reading out of range
	0 0 1 0	FZ Icemaker Thermistor reading out of range (if applicable)
	0 0 1 1	N/A
	0 0 1 2	N/A
Fans (100 – 199)	0 1 0 0	FZ Fan Feedback Missing when Fan is running
	0 1 0 1	FZ Fan Feedback Present when Fan is off.
	0 1 0 2	FZ Fan cannot reach target speed.
	0 1 0 3	Condenser Fan Feedback Missing when Fan is running.
	0 1 0 4	Condenser Fan Feedback Present when Fan is off.
	0 1 0 5	Condenser Fan cannot reach target speed.
	0 1 0 6	FF Fan Feedback Missing when Fan is running.
	0 1 0 7	FF Fan Feedback Present when Fan is off.
	0 1 0 8	FF Fan cannot reach target speed.
	0 1 0 9	Ice Box Fan Feedback Missing when Fan is running.
	0 1 1 0	Ice Box Fan Feedback Present when Fan is off.
	0 1 1 1	Ice Box Fan cannot reach target speed.
	0 1 1 2	Deli Pan Fan Feedback Missing when Fan is running.
	0 1 1 3	Deli Pan Fan Feedback Present when Fan is off.
	0 1 1 4	Deli Pan Fan cannot reach target speed.
Defrost System (200-299)	0 2 0 0	FZ Defrost Heater timed out (check FZ Evap thermistor fault code 0004)
	0 2 0 1	FF Defrost Heater timed out (check FF Evap thermistor fault code 0006)
	0 2 0 2	5 consecutive FZ extended defrosts.
	0 2 0 3	5 consecutive FF extended defrosts.
Sealed System (300-399)	0 3 0 0	N/A
	0 3 0 1	Temperature satisfied > 3 hours (no compressor operation)
	0 3 0 2	N/A
	0 3 0 3	FF Temp Exceeds > 55 F .
	0 3 0 4	FZ Temp Exceeds > 25 F.
	0 3 0 5	N/A
	0 3 0 6	N/A
	0 3 0 7	N/A
Main Board (400 - 499)	0 4 0 0	N/A
	0 4 0 1	N/A
	0 4 0 2	N/A
	0 4 0 3	Mainboard Software Fault
Door Board Failure Codes (500-599)	0 5 0 0	Can't reach Target Hot Water Temp.
	0 5 0 1	Flow meter - no signal received during dispense.
	0 5 0 2	Flow meter signal received with no water dispensing.
	0 5 0 3	Paddle switch pressed > 7 minutes
	0 5 0 4	Hot water tank not full while heating
	0 5 0 5	N/A
	0 5 0 6	N/A
	0 5 0 7	Check Paddle switch and wiring
	0 5 0 8	Check Paddle switch and wiring
	0 5 0 9	Check Hot water T&P switch and wiring
	0 5 1 0	Check Hot water T&P switch and wiring
	0 5 1 1	FF IM Thermistor reading out of range.
	0 5 1 2	Ice Box Thermistor reading out of range.
	0 5 1 3	Hot Water Thermistor reading out of range.
	0 5 1 4	Hot Water Thermistor reading out of range.
	0 5 1 5	Door board Hardware fault
	0 5 1 6	Hot Water tank Fault
	0 5 1 7	Door board Hardware fault
	0 5 1 8	Low Flow Rate, Hot Water Disabled
	0 5 1 9	N/A
	0 5 2 0	HW Max Fill Time Out Hot water disabled
	0 5 2 1	HW Max Dispense Time Out Hot water disabled
	0 5 2 2	HW Max Purge Time Out Hot water disabled
	0 5 2 3	Feature Board communication error
	0 5 2 4	Dispense nozzle movement error
	0 5 2 5	Brew Module not detected during brew
	0 5 2 6	High flow during brewing
	0 5 2 7	Low flow during brewing
	0 5 7 1	Feature board hardware fault

Group	Display	Failure Code Definition
Icemaker (600-699)	0 6 0 0	N/A
	0 6 0 1	FF IM Harvest Extended >10 mins.
	0 6 0 2	FF IM Harvest Extended 3 out of 10 harvests
	0 6 0 3	FF IM Harvest Not Completed after 30 mins.
	0 6 0 4	FF IM No water supply detected
	0 6 0 5	FF IM continues to sense bucket full after ice dispense
	0 6 0 6	FF IM Moldheater not heating
	0 6 5 0	N/A
	0 6 5 1	FZ IM Harvest Extended >10 mins.
	0 6 5 2	FZ IM Harvest Extended 3 out of 10 harvests
	0 6 5 3	FZ IM Harvest Not Completed after 30 mins.
	0 6 5 4	FZ IM No water supply detected
	0 6 5 5	FZ IM Moldheater not heating
External Interaction (700 thru 799)	0 7 0 0	Stuck keys on Dispenser Boards
	0 7 0 1	Stuck Keys on Internal Temp Board
	0 7 0 2	Stuck Keys on Deli Pan
	0 7 0 3	Key Press on Temp Board while Door Closed
	0 7 0 4	Key Pressed on Deli Pan Board while Door Closed
	0 7 0 5	Dispenser Board AutoFill Error
	0 7 0 6	Dispenser Board AutoFill Error
	0 7 0 7	Dispenser Board Error
	0 7 0 8	Dispenser Board Error
	0 7 0 9	Check Paddle switch and wiring
	0 7 1 0	Check Paddle switch and wiring
	0 7 1 1	Check Hot water T&P switch and wiring
	0 7 1 2	Check Hot water T&P switch and wiring
	0 7 1 3	FF Door open for 15 minutes continuously.
	0 7 1 4	FF Door open for 60 mins. total in the last 24 hours
	0 7 1 5	100 FF Left Door Openings in the last 24 hours.
	0 7 1 6	100 FF Right Door Openings in the last 24 hours.
	0 7 1 7	FZ Door open for 15 minutes continuously
	0 7 1 8	FZ Door open for 60 mins. total in the last 24 hrs.
	0 7 1 9	100 FZ Door Openings in the last 24 hours.
	0 7 2 0	N/A
	0 7 2 1	Upper AutoFill Sensor Error (Clean sensors)
	0 7 2 2	Display Board Error
RFID (800-899)	0 8 0 0	RFID board hardware failure/ check filter and filter orientation
	0 8 0 1	RFID board failed to respond to MB
	0 8 0 2	RFID board not detecting filter tag/ check filter and filter orientation
	0 8 0 3	RFID filter authentication failed / check filter and filter orientation

FZ Display	FF Display	Mode	Comments
00	00	Show Fault Codes	
00	01	Clear Fault Codes	Clear all fault codes after repairs are completed.
00	02	Dispenser Self-Test Mode	Turns on all LEDs and 7 Segments on the Dispenser board for testing
00	06	COM Version	Return the Com Version (Only on LCD Models)
00	07	Degrees C Mode	Changes the System to be Degrees C
00	08	Degrees F Mode	Changes the System to be Degrees F
00	14	Force FF and FZ Defrost	Starts a FF and FZ Defrost
00	15	Exits all Defrost	Forces the Heated Defrost to the Idle State
00	16	EXIT SERVICE MODE	Resets all boards in the system
00	17	Door Board Version Test	
00	18	Dispenser Version Test	
00	19	Deli Pan Version Test	
00	20	Internal Temp Version Test	Confirm UI communication this board
00	21	Wifi Module Version Test	
00	22	AutoFill Version Test	
00	23	Mainboard Version Test	
00	24	FF1 Thermistor Test	
00	25	FF2 Thermmistor Test	
00	26	FF Evaporator Thermistor Test	
00	27	FZ Cabinet Thermistor Test	
00	28	FZ Evaporator Thermistor Test	
00	29	Ambient Temp Test	Display unfiltered thermistor temperature (display of 300 or -41 indicates open/shorted or not present) Example: 10 27 = 10.27 deg
00	30	Deli Pan Thermistor Test	
00	31	FZ Ice Mold Body Thermistor Test	
00	36	FF Door Ice Mold Body Thermistor Test	
00	37	FF Door Ice Cabinet Thermistor Test	
00	38	Hot Water 1 Thermistor Test	
00	39	Hot Water 2 Thermistor Test	
00	40	Humidity Sensor Test	Displays current humidity
00	43	Cycle Duct Door	Opens the Duct Door for 10 seconds and then closes it
00	44	Cycle FF Damper	Opens the Damper for 30 seconds and then closes it
00	46	Cycle Deli Damper	
00	47	FF Fan Test	Turns the Fan on 75% duty cycle and returns the RPM
00	48	FZ Fan Test	
00	49	Condenser Fan Test	
00	50	Ice Box Fan Test	
00	51	Deli Fan Test	
00	53	FF Defrost Heater Test	Turns on the load.
00	54	Deli pan/QC heater Test (30 sec max)	
00	55	Isolation Valve Test	
00	56	Ice Port Heater Test	
00	58	FZ Icemaker Water Valve Test	
00	59	FZ Icemaker Rake Motor Test	
00	60	FZ Defrost heater Test	
00	61	Compressor Relay Test	
00	64	FZ Icemaker Fill Tube Heater Test	
00	65	FF Door Icemaker Water Valve Test	
00	66	FF Door Icemaker Rake Motor Test	
00	67	FF Door Hot Water Valve Test	
00	68	FF Door Water Valve Test	
00	69	Hot Water heater Test (5 sec max) Note: Half power for single serve.	
00	70	Read Left FF Door Status	Returns the Input Satus (0 = Closed, 1 = Open)
00	71	Read Right FF Door Status	
00	72	Read FZ Door Status	
00	73	Internal Dispense Switch Status	
00	74	Read FZ Icemaker Rake Status	Returns the Input Status (0 = not home, 1 = home)
00	75	Read FZ Icemaker Arm Status	Returns the Input Status (0 = not Full, 1 = Full)
00	76	Read FF Door Icemaker Rake Status	Returns the Input Status (0 = not home, 1 = home)
00	77	Read FF Door Icemaker Arm Status	Returns the Input Status (0 = not Full, 1 = Full)
00	78	Read FF Door Cold Water Cup Switch	Returns the Input Status (0 = Not Pressed)
00	79	Read FF Door Hot Water Cup Switch	
00	80	Read FF Door Hot Water Level Switch 1	Returns the Input Status (0 - Not Full)
00	81	Read FF Door Hot Water Level Switch 2	
00	82	Read FF Door Over Current Flag 1	Returns the Input Status (0 = Not Tripped)
00	83	Read FF Door Over Current Flag 2	
00	84	FF Door Icemaker Fill Tube Heater Test	Turns on the Load
00	85	FF Door Recess Heater Test	
00	86	Vertical Mullion Heater Test Frame Door Heater Test Mainboard Heater Test	
00	91	FF Lights Test	Turns the lights on at 100% Duty Cycle
00	92	FZ Lights Test	
00	93	FZ Defrost Heater Test with Feedback	Turns on FZ defrost heater displays FZ evap thermistor temperature
00	94	FF Defrost Heater Test with Feedback	Turns on FF defrost heater displays FF evap thermistor temperature
00	95	FF Cooling Test	Compressor (on) 3-way valve FF/ FZ - Condensor fan (high) - FF evap fan (low) - display FF evap thermistor temperature
00	96	FZ Cooling Test	Compressor (on) 3-way valve FZ only - Condenser fan (high) - FZ evap fan (low) - display FZ evap thermistor temerature
00	97	FF Door Icemaker Heater Test	Turns on FF door IM Heater displays FF door I\M mold thermistor temperature
00	98	FZ Icemaker Heater Test	Turns on FZ IM Heater, displays FZ door I M mold thermistor temperature
00	99	FF Door Icemaker Full Cycle Test	Icemaker Full Cycle Test (similar to 3-arm press)
01	00	FZ Icemaker Full Cycle Test	
01	01	RFID Board Version	Confirm UI communication this board
01	02	Feature Board Version	Confirm UI communication this board
01	03	Air Pump & Pod Valve Test	Run air pump at 100% duty cycle and pod valve open
01	04	Air Pump & Vent Valve Test	Run air pump at 100% duty cycle and vent valve open
01	05	Raise Dispenser Nozzle	Run motor at 100% duty cycle, raise nozzle, return pass/fail
01	06	Lower Dispenser Nozzle	Run motor at 100% duty cycle, lower nozzle, return pass/fail
01	07	Brew Module Switch Test	Return brew module switch status
01	08	Turbo Heat Relay test	Turn on Turbo Heat (Relay only)
01	09	Hot Water Bypass Valve Test	Turn on Hot Water Bypass Valve relay only

Single Speed Models: GFE28, PFD28, PFE28, CFE28, GNE29, GYE22, PYD22, PYE22, CYE22, GWE23, PWE23, CWE23, ZWE23



Compressor	R_{run}	R_{start}
EMD55	4.3Ω	5.4 Ω
EZ80H1Y	4.7Ω	4 .2 Ω

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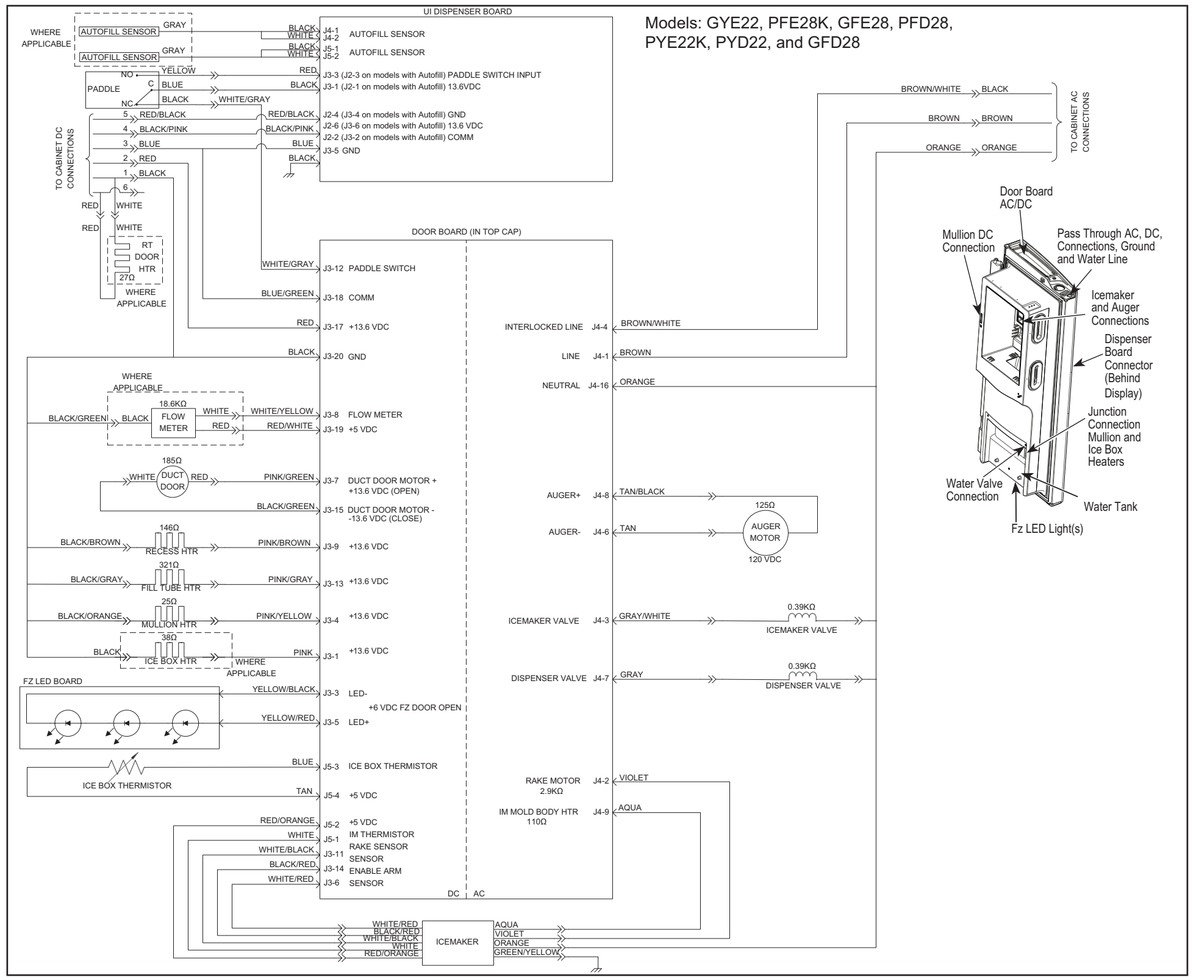
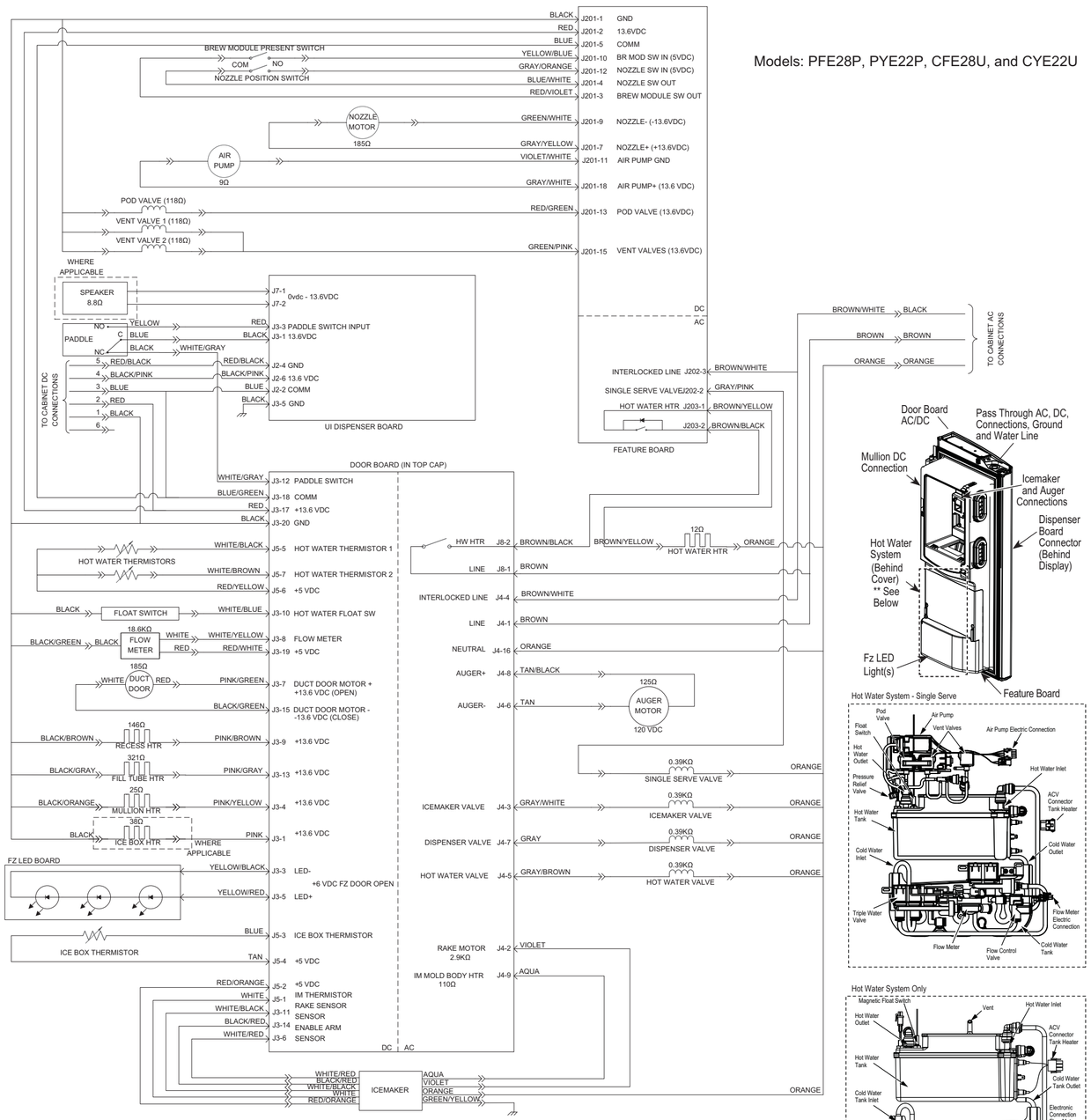
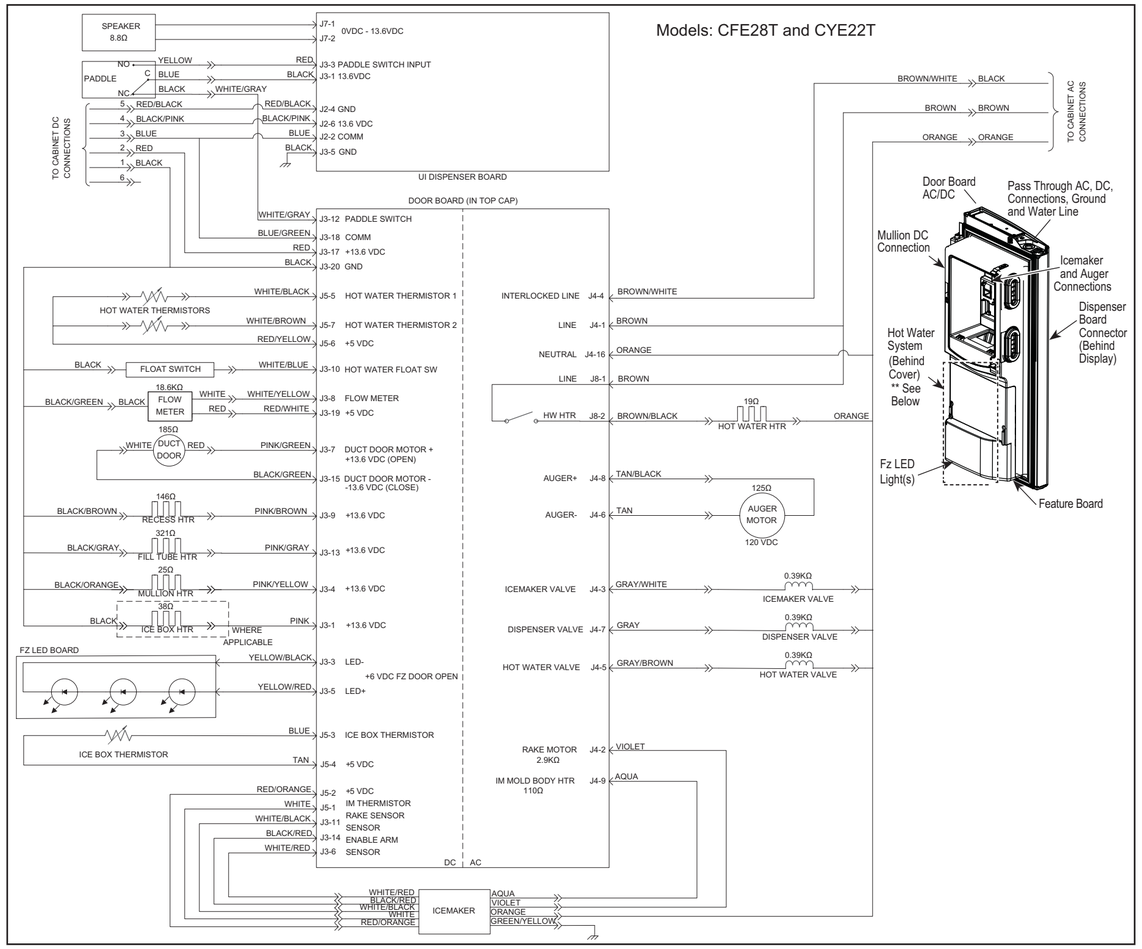
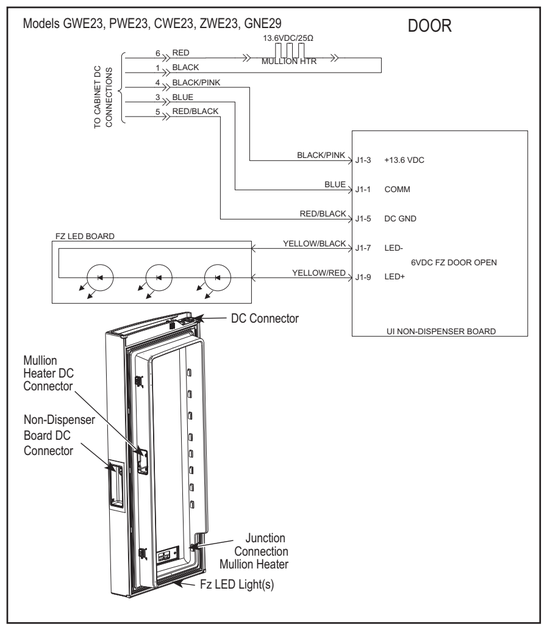








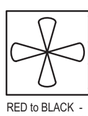
THERMISTOR RESISTANCE/TEMP		
Temp F	Temp C	K-Ohms
-13	-25	65 kΩ
-4	-20	48.4 kΩ
5	-15	36.4 kΩ
14	-10	27.6 kΩ
23	-5	21 kΩ
32	0	16.3 kΩ
41	5	12.7 kΩ
50	10,	10 kΩ
59	15	7.8 kΩ
68	20	6.2 kΩ
77	25	5 kΩ
86	30	4 kΩ
95	35	3.2 kΩ
104	40	2.6 kΩ

ICEMAKER THERMISTOR RESISTANCE/TEMP		
Temp F	Temp C	K-Ohms
-40	-40	207 kΩ
35.6	2	25.37 kΩ
39.2	4	23.27 kΩ
50	10	18.07 kΩ
59	15	14.75 kΩ
68	20	12.11 kΩ
77	25	10 kΩ
176	80	1.67 kΩ

HOT WATER THERMISTOR RESISTANCE/TEMP		
Temp F	Temp C	K-Ohms
32	0	32.7 kΩ
41	5	25.4 kΩ
77	25	10 kΩ
95	35	6.5 kΩ
122	50	3.6 kΩ
149	70	2.1 kΩ
167	75	1.5 kΩ
185	85	1.07 kΩ

HUMIDITY CHART	
Humidity	Voltage
20%	1.6V
50%	2.4V
80%	3.1V

ALL FANS (except Deli-Pan Fan)



RED 13.6 VDC
BLACK GND
YELLOW PWM (speed)
BLUE RPM Feedback

RED to BLACK - 13.6 VDC CONSTANTLY
YELLOW to BLACK - 2 to 3 VDC / FAN ON
BLUE to BLACK - 2 to 4 VDC / FAN ON