A 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

Entering Service Diagnostics
Enter Service mode by pressing the "Water", "Crushed", and "Cubed" buttons simultaneously for 3 seconds

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 the temperature

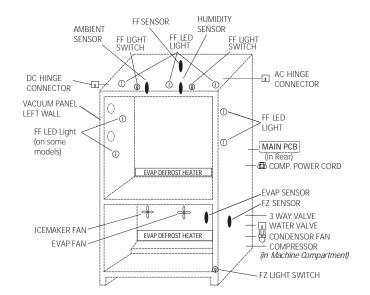
display shows 00 in each of the FZ and FF displays. LCD Display: Use the up and down buttons on the left to increment increment the 1's place to select the desired test. Press any key other than the temp adjust keys to run test. The test mode must be selected within 5 minutes of entering the diagnostic 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.

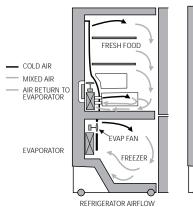
Run test 0016 to exit diagnostics and return to normal operation. The control will reset to normal operation if power is cycled.

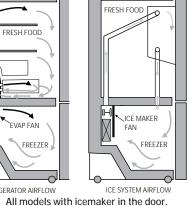
Non-dispenser needs service kit.

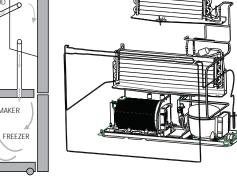
ELECTRICAL	PFE28/	DFE29/	GYE22/	GNE29/	GFE26/	CFE28	CYE22
SPECIFICATIONS		GFE29	PYE22	GNE26	DFE28/		
			CWE23/		GFE28/		
			PWE23/		GFE27/		
			ZWE23		PFH28		
REFRIGERANT CHARGE (134a), oz	5.375	5.5	5.25	5.25	5.50	5.375	5.25
Thermistor kilo-ohm resistance @ 32 °F				16.3			
Over Temperature Thermostat				140 °F			
Adaptive Defrost Control Fresh Food				32 hrs			
Adaptive Defrost Control Freezer				96 hrs			
Electrical Rating: 115VAC, 60Hz	9.5 Amp	9.5 Amp	9.5 Amp	9.5 Amp	9.5 Amp	12 Amp	12 Amp
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°F	70°F	90°F]			
29/28/26 Single Speed	34.8	48.3	60.3				
22/23/29 Variable Speed	25.0	35.9	45.3				



AIR FLOW







Group	Display	Failure Code Definition
Thermistors	0001	FF Thermistor reading out of range
(1 – 99)	0002	N/A FZ Thermistor reading out of range
	0003	FZ Evaporator Thermistor reading out of range
	0005	Electronic Deli Pan Thermistor reading out
		of range
	0006	FF Evaporator Thermistorreading out of range N/A
	0007	Ambient Temperature Thermistor reading out
		of range
	0009	Ambient Humidity Sensor reading out of range
	0010	FZ Icemaker Thermistor reading out of range (if applicable)
	0011	N/A
	0012	N/A
Fans	0100	FZ Fan Feedback Missing when Fan is running
(100 – 199)	0101	FZ Fan Feedback Present when Fan is off. FZ Fan cannot reach target speed.
	0102	Condenser Fan Feedback Missing when Fan is
		running.
	0104	Condenser Fan Feedback Present when Fan is off.
	0105 0106	Condenser Fan cannot reach target speed. FF Fan Feedback Missing when Fan is running.
	0107	FF Fan Feedback Present when Fan is off.
	0108	FF Fan cannot reach target speed.
	0109	Ice Box Fan Feedback Missing when Fan is
	0110	running. Ice Box Fan Feedback Present when Fan is off.
	0111	Ice Box Fan cannot reach target speed.
	0112	Deli Pan Fan Feedback Missing when Fan is
	0111	running.
	0113	Deli Pan Fan Feedback Present when Fan is off. Deli Pan Fan cannot reach target speed.
	0114	Odor Remover Fan Feedback Missing when Fan
		is running.
	0116	Odor Remover Fan Feedback Present when Fan is off.
	0117	Odor Remover Fan cannot reach target speed.
Defrost System	0 20 0	FZ Defrost Heater timed out (check FZ Evap
(200-299)		thermistor fault code 0004)
	0201	FF Defrost Heater timed out (check FF Evap
	0202	thermistor fault code 0006) 5 consecutive FZ extended defrosts.
	0203	5 consecutive FF extended defrosts.
Sealed System	0300	N/A
(300-399)	0301	Temperature satisfied > 3 hours (no compressor operation)
	0302	N/A
	0303	FF Temp Exceeds > 50 F.
	0304	FZ Temp Exceeds > 25 F.
	0305	N/A N/A
	0307	N/A
Main Board	0400	N/A
(400 - 499)	0401	N/A
	0402	N/A
	0403	Mainboard Software Fault
	0404	Mainboard Hardware Fault
	0404	Main board Polay driver is shorted
Door Board	0500	Main board Relay driver is shorted Can't reach Target Hot Water Temp.
Failure Codes	0500	Flow meter - no signal received during dispense.
(500-599)	0502	Flow meter signal received with no water
	0500	dispensing.
	0503 0504	Paddle switch pressed > 7 minutes Hot water tank not full while heating
	0505	N/A
	0506	N/A
	0507	Check Paddle switch and wiring
	0508	Check Paddle switch and wiring Check Hot water T & P switch and wiring
	0510	Check Hot water T&P switch and wiring
	0511	FF IM Thermistor reading out of range.
	0512	Ice Box Thermistor reading out of range.
	0513	HotWater Thermistor reading out of range. HotWater Thermistor reading out of range.
	0514	Door board Hardware fault
	0516	Hot Water tank Fault
	0517	Door board Hardware fault
	0518 0519	Low Flow Rate, Hot Water Disabled N/A
	0519	HW Max Fill Time Out Hot water disabled
	0521	HW Max Dispense Time Out Hot water disabled
	0522	HW Max Purge Time Out Hot water disabled
	0523	Feature Board communication error
	0524	Dispense nozzle movement error
	0525	Brew Module not detected during brew High flow during brewing
	0525 0526 0527	High flow during brewing Low flow during brewing
	0525 0526 0527 0570	High flow during brewing Low flow during brewing Dispenser nozzle motor over current error
	0525 0526 0527	High flow during brewing Low flow during brewing

FZ Display	FF Display	Mode	Comments	FZ Display	FF Display
00	00	Show Fault Codes		00	47
00	01	Clear Fault Codes	Clear all fault codes after repairs are com-	00	48
			pleted.	00	49
00	02	Dispenser Self-Test Mode	Turns on all LEDs and 7 Segments on the Dispenser board for testing	00	50
00	06	COM Version	Return the Com Version (Only on LCD Models)	00	51
00	07	Degrees C Mode	Changes the System to be Degrees C	00	52
00	08	Degrees F Mode	Changes the System to be Degrees F	00	53
00	11	Join Ziabee Network	onanges the eystern to be begines i	00	54
00	12	Leave Zigbee Network	See Zigvee Network		34
00	13	Get Zigbee Network Status	g	00	55
00	14	Force FF and FZ Defrost	Starts a FF and FZ Defrost	00	56
00	15	Exits all Defrost	Forces the Heated Defrost to the Idle State	00	57
00	16	EXIT SERVICE MODE	Resets all boards in the system		
00	17	Door Board Version Test	Resets an Beards in the System	00	58
00	18	Dispenser Version Test	i	00	59
00	19	Deli Pan Version Test	1 1	00	60
00	20	Internal Temp Version Test	Confirm UI communication this board	00	61
00	21	Zigbee Module Version Test	1 i	00	63
00	22	AutoFill Version Test	1	00	64
00	23	Mainboard Version Test	i i	00	65
00	24	FF1 Thermistor Test		00	66
00	25	FF2 Thermmistor Test	1 i	00	67
00	26	FF Evaporator Thermistor Test	1	00	68
00	27	FZ Cabinet Thermistor Test]	00	69
00	28	FZ Evaporator Thermistor Test]	00	70
00	29	Ambient Temp Test	Displays unfiltered thermistor temperature	00	71
00	30	Deli Pan Thermistor Test	(display of 300 or -41 indicates open/shorted	00	72
00	31	JZ Ice Mold Body Thermistor Test	or not present)	00	73
00	32	Conv Drawer Thermistor Test	Example: 10 27 = 10.27 deg	00	74
00	36	FF Door Ice Mold Body Thermistor Test		00	75
00	37	FF Door Ice Cabinet Thermistor Test	1	00	76
00	38	Hot Water 1 Thermistor Test		00	77
00	39	Hot Water 2 Thermistor Test	1	00	78
00	40	Humidity Sensor Test	Displays current humididty		
00	41	Case (SxS) Flow Meter Test	Returns the Flow from Last Dispense for SxS	00	79
00	42	Door (BF) Flow Meter Test	Returs the Flow from Last Dispense for BF		
00	43	Cycle Duct Door	Opens the Duct Door for 10 seconds and then closes it	00	80
00	44	Cycle FF Damper	0 11 0 6 00 1 111	00	81
00	45	Cycle Conv Drawer Damper	Opens the Damper for 30 seconds and then closes it	L	
00	46	Cycle QC/Deli Damper	CIUSES II	00	82
				00	83 84
					J

Group	Display	Failure Code Definition
Ice Maker (600-699)	0600 0601 0602 0603 0604	N/A FF IM Harvest Extended > 10 mins. FF IM Harvest Extended 3 out of 10 harvests FF IM Harvest Not Completed after 30 mins. FF IM No water supply detected
	0605	FF IM continues to sense bucket full after ice dispense FF IM Moldheater not heating
	0650 0651 0652 0653	N/A FZ IM Harvest Extended >10 mins. FZ IM Harvest Extended 3 out of 10 harvests FZ IM Harvest Not Completed after 30 mins.
	0654 0655	FZ IM No water supply detected FZ IM Moldheater not heating
External Interaction (700 thru 799)	0700 0701 0702 0703 0704 0705 0707 0708 0707 0710 0711 0712 0713	Stuck keys on Dispenser Boards Stuck Keys on Internal Temp Board Stuck Keys on Deil Pan Key Press on Temp Board while Door Closed Key Press on Temp Board while Door Closed Key Pressed on Deil Pan Board while Door Closed Dispenser Board Auto Fill Error Dispenser Board Error Dispenser Board Error Check Paddle switch and wiring Check Paddle switch and wiring Check Hot water T&P switch and wiring FDoor open for 15 minutes continuously. FF Door open for 60 mins: total in the last 24 hours
	0715 0716 0717 0718 0719 0720 0721 0722	50 FF Left Door Openings in the last 24 hours. 50 FF Right Door Openings in the last 24 hours. FZ Door open for 15 minutes continuously FZ Door open for 60 mins. total in the last 24 hrs 50 FZ Door Openings in the last 24 hours. N/A Upper Auto Fill Sensor Error Display board error
RFID (800-899)	0800	RFID board hardware failure/ check filter and filter orientation
(000-077)	0801 0802	RFID board failed to respond to MB RFID board not detecting filter tag/ check filter and filter orientation
	0803	RFID filter authentication failed / check filter and

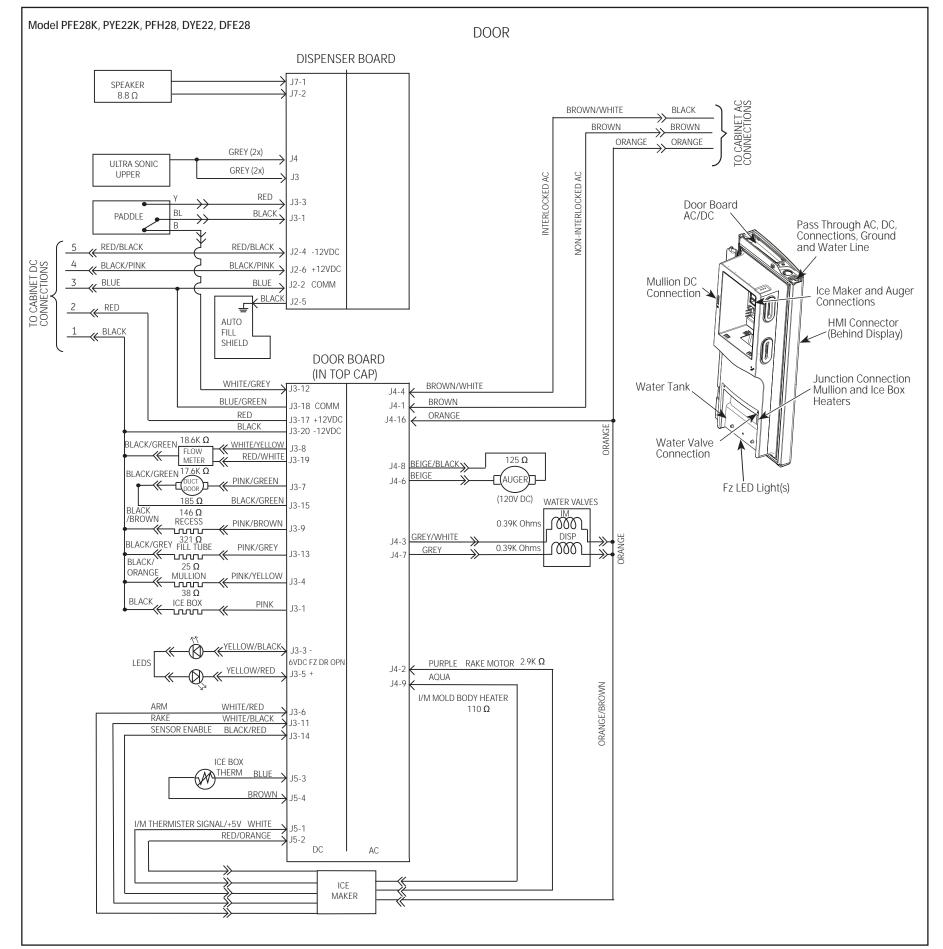
filter orientation

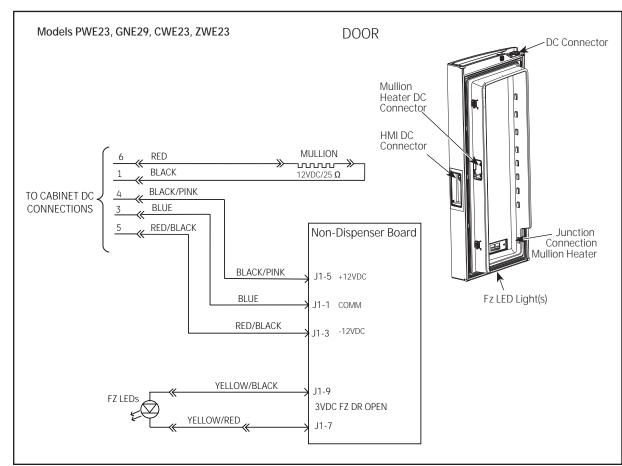
Display	Display	Mode	Comments
00	47	FF Fan Test	
00	48	FZ Fan Test	
00	49	Condenser Fan Test	Turns the Fan on 75% dury cycle and returns
00	50	Ice Box Fan Test	he RPM
00	51	Deli/QD Fan Test	-
00	52	Convertible Drawer Fan Test	
00	53	FF Defrost Heater Test	
00	54	Deli pan/QC heater Test (30 sec	1
		max)	
00	55	Isolation Valve Test	
00	56	Ice Port Heater Test	-
00	57	Ice Duct Liner Htr/SxS Water Valve Test	
00	58	FZ Icemaker Water Valve Test	1
00	59	FZ Icemaker Rake Motor Test	1
00	60	FZ Defrost heater Test	Turns on the load.
00	61	Compressor Relay Test]
00	63	IMX POwer Relay Test (Normally	1
		Closed Relay)	
00	64	FZ Icemaker Fill Tube Heater Test	1
00	65	FF Door Icemaker Water Valve Test	1
00	66	FF Door Icemaker Rake Motor Test	1
00	67	FF Door Hot Water Valve Test	1
00	68	FF Door Water Valve Test	1
00	69 70	Hot Water heater Test (5 sec max)	
00	70	Read Left FF Door Status Read Right FF Door Status	1
00	72	Read FZ Door Status	Returns the Input Satus (0 = Closed, 1 = Oper
00	73	Read Conv Drawer/IM Input Status	1
00	74	Read FZ Icemaker Rake Status	Returns the Input Status (0 = not home, 1 =
			home)
00	75	Read FZ Icemaker Arm Status	Returs the Input Staturs (0 = not Full, 1 = Full)
00	76	Read FF Door Icemaker Rake Status	Returns the Input Satus (0 = not hoe, 1 = hon
00	77	Read FF Door Icemaker Arm Status	Returns the Input Status (0 = not Full, 1 = Full
00	78	Read FF Door Cold Water Cut	1
00	79	Switch Road EF Door Hot Water Cup	Returns the Input Status (0 = Not Pressed)
00	'9	Read FF Door Hot Water Cup Switch	1
00	80	Read FF Door Hot Water Level	İ
		Switch 1	Returns the Input Status (0 - Not Full)
00	81	Read FF Door Hot Water Level	Netaris the input status (0 - Not Full)
00	00	Switch 2	ļ
00	82	Read FF Door Over Current Flag 1	Returns the Input Status (0 = Not Tripped)
00	83 84	Read FF Door OVer Current Flag 2 FF Door Icemaker Fill ITube Heater	· · · ·
UU	04	Test	
00	85	FF Door Recess Heater Test	1
00	86	Vertical Mullion Heater Test	Turns on the Load
00	87	Unused output]
00	88	Unused output]
00	89	Ice Box Gasket 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	Turns on FZ defrost heater displays FZ evap
00	04	Feedback FF Defrost Heater Test with	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 (VS high SS on) 3-way valve FF/
	"		FZ - Condensor fan (high) - FF evap fan (low)
			display FF evap thermistor temperature
00	96	FZ Cooling Test	Compressor (VS high SS on) 3-way valve FZ
	1		only - Condenser fan (high) - FZ evap fan (lov display FZ evap thermistor temerature
00	97	FF Door Icemaker Heater Test	turns on FF door I/M Heater displays FF door
			I\M mold thermistor temperature
00	98	FZ Icemaker Heater Test	turns on FZ I/M Heater, displays FZ door I/M
	-		mold thermistor temperature
00	99	FF Door Icemaker Full Cycle Test	Icemaker Ful Cycle Test (similar to 3-arm pre
01	00	FZ Icemaker Full Cycle Test	, , ,
01	01	RFID Board Version	-
01	02	Feature Board Version	Dup oir nump of 1000/ duty
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,
01	07	Brew Module Switch Test	return pass/fail Return brew module switch status
01	07	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
		vracor Dypass varve rest	or react bypass valve relay offly

CASE - Pub. No. 31-51934 200D6474P055 GE 12-15 **SERVICE** - Pub. No. 31-51932 200D6474P054 GE 12-15 Variable Speed Models: CFE28, CWE23, CYE22, GYE22, PFE28, PFH28, PWE23, PYE22, and ZWE23 Single Speed Models: DFE28, DFE29, GFE26, GFE27, GFE28, GFE29, GNE26, GNE29 NOTE: DOORS CLOSED FF LEDs APPLICABLE WHITE PINK/BLUE BLUE 16-9 TAN J14-6 .41Κ Ω YELLOW/BLUE YELLOW WHITE VIOLET . IBLUE J6-10 DELI PAN BLUE/WHITE WHFRF **DAMPER** RED RED/BLACK J6-13 WHERE J13-7+ 13.6 VDC DR BD .41K Ω _{YELLOW} APPLICABLE BLUE/RED **APPLICABLE** RED/ORANGE RED/ORANGE J13-4- 13.6 VDC DR BD BLUE/YELLOW YELLOW J4-4 J9-10 HUMIDITY BLUE/WHITE TO DOOR SILVER/ORANGE BLUE J4-2 J13-2 COMM DISP BD & UI YELLOW/PINK SENSOR DC CONNECTIONS WHERE YELLOW/SILVER J4-6 WHITE/ORANGE YELLOW/SILVER WHITE/ORANGE J13-6+ 13.6 VDC J9-13 APPLICABLE WHITE/BROWN WHITE/BROWN YELLOW/SILVER RED/WHITE J9-13- 13.6 VDC DISP BD RED/BROWN RED/BROWN RFID VIOLET →> RED J13-3 13.6 VDC RED TO DOOR WHITE 6 SILVER BLACK/ORANGE J4-7 J13-5+ 13.6 VDC WHITE DC CONNECTIONS SERVICE MB ENCL HTR 285Ω YELLOW/SILVER UNDER TOP HINGE COVER BLUE/ORANGE J13-1 COMM J1-3 K RED RED/BLACK DELI-PAN BOARD J11-1+ 13.6 VDC Deli YELLOW YELLOW/BLACK J11-3 - 13.6 VDC Deli WHITE SILVER/BLACK J11-2 COMM Deli WHITE RED WHERE FF THERMISTOR TAN APPLICABLE J11-13 Singel ORANGE BLUE. Variable J11-14 Speed Speed FF EVAP THERMISTOR TAN J11-9 See below See below BLACK BLACK BLUE J 11-10 J1-5 FZ THERMISTOR TAN (M) J 10-1 ORANGE BLUE, J 10-2 BROWN/PINK FZ EVAPTHERMISTOR TAN J 10-3 ISOLATION , WHITE WATER PINK/BROWN BLUE 0.41Κ Ω J 10-4 VALVE DELI PAN THERMISTOR BLUE BROWN. J11-7 BLACK I WHFRF BROWN/BLACK **BROWN** APPLICABLE **BROWN** J11-8 ORANGE CONNECTIONS AMBIENT THERMISTOR ORANGE PINK YELLOW/WHITE, NC ,VIOLET LEFT DOOR SWITCH BROWN/YELLOW BLUE J9-11 WHITE NC RED PINK/RED COM VIOLET/WHITE RIGHT DOOR SWITCH BLACK WHITE/RED. J8-3 FZ EVAP FAN YELLOW VIOLET/RED. J8-5 YELLOW/RED. BROWN WHERE RED PINK/VIOLET J8-2 **APPLICABLE** ORANGE BLACK WHITE/VIOLET »BLUE | | | | | | YELLOW FZ ICE BOX FAN RED/VIOLET OVER TEMPERATURE YELLOW J2-2 84 Ohms **THERMOSTAT** DEF HTR YELLOW/VIOLET OPEN >140° F BLUE 18-8 RED RED/BLUE »

BLUE F7 PINK EQ DUCT HTR BLUE WHITE/BLUE BLACK WHERE 16-4 32 Ohms **APPLICABLE** FF FAN SILVER/BLUE DEF HTR $\Pi\Pi$ YELLOW J6-8 WHERE **APPLICABLE** TAN/BLUE BLUE 16-6 6.6 Ω J2-3 BLACK WHITE RED_ WHERE BROWN J6-1 >>WHITE] [APPLICABLE BLACK TAN J6-3 1.12K Ohms ICE DELI PAN FAN YELLOW PORT YELLOW RED J6-5 J4-2 HTR BLACK BLUE VIOLET. WHERE J6-7 IW CUP FZ DOOR APPLICABLE RED RED/YELLOW **SWITCH** WHITE/YELLOW **BLACK** 19-2 CONDENSER FAN ORANGE BLACK/YELLOW YELLOW J1-6 IW WATER 19-3 ORANGE BLUE PINK/YELLOW VALVE J1-2 BROWN J9-4 ORANGE 0.41Κ Ω TAN. J12-1 Wh - Bk, Y, R or Or = 41 ohms BLACK WHITE Bk - Y 82 ohms NEUTRAL INPUT LINE INPUT - R 82 ohms YELLOW BLACK J12-2 R - Or 82 ohms Y - Or 82 ohms GREEN/YELLOW BLUE 3-WAY VALVE YELLOW Bk - R 82 ohms J12-3 J2-5 0.4 Κ Ω Bk - Or 82 ohm SILVER RED J4-4 J3-3 SILVER/BLACK WATER RED ORANGE ORANGE VALVE 1.0 K Ω , RED/ORANGE WHITE | | | | | | | | | | | | | J10-7 (+5V) BLUE/YELLOW, WHERE J10-8 (IM THERMISTORI SIGNAL) WHITE APPLICABLE FZ IM FT HTR OPEN >162° F THERMAL CU OFF (MOLD J3-2 BODY HEATER) ⟨ WHITE/BLUE J10-10 (RAKE) < ≪ RED/BLUE J 10- 11(SENSOR ENABLE) J3-1 (RAKE MOTOR) ≪WHITE/RED PURPLE J10-12 (ARM) FREEZER ORANGE/ I WHERE BROWN I APPLICABLE MAKER Single Speed Compressor R Compressor Variable Speed Compressor Rrun Rstart Compressor EEI68 12.4 Ω GREEN 6.1Ω 6.7Ω VEGY6H 6.4 Ω DJK51 5.2Ω 5.9Ω VEGD7H 7.69 Ω OVERLOAD From Main Board TO CABINET WIRING GREEN/YELLOW ORANGE ORANGE RED BLACK 2-4 VDC RED COMMUNICATION RUN ORANGE CAPACITOR RELAY CAPACITOR <u>ORANG</u>E COMPRESSOR SIGNAL WHITE GREEN/YELLOW BLACK _®/ R **∕**VV~ ORANGE COMPRESSOR BLACK R GROUND From Wiring Harness COMPRESSOR CASE - Pub. No. 31-51934 200D6474P055 GE 12-15

CABINET

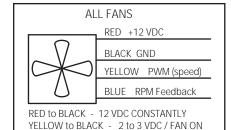




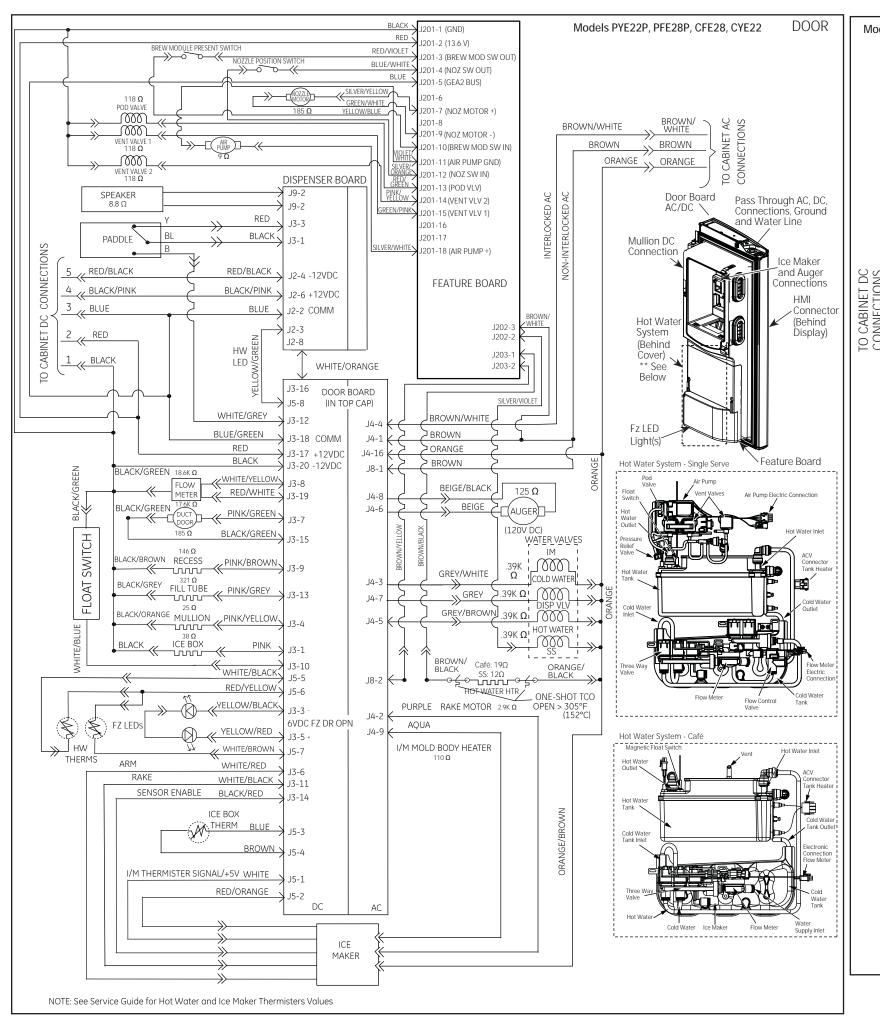
THERMISTOR RESISTANCE/TEMP		
Temp F	Temp C	K-Ohm
-13	-25	65 k Ω
-4	-20	48.4 k ⊈
5	-15	36.4 k ᡗ
14	-10	27.6 k ડ
23	-5	21 k Ω
32	0	16.3 k ኗ
41	5	12.7 k C
50	10,	10 k Ω
59	15	7.8 k Ω
68	20	6.2 k Ω
77	25	5 k Ω
86	30	4 kΩ
95	35	3.2 k Ω
104	40	2.6 k Ω

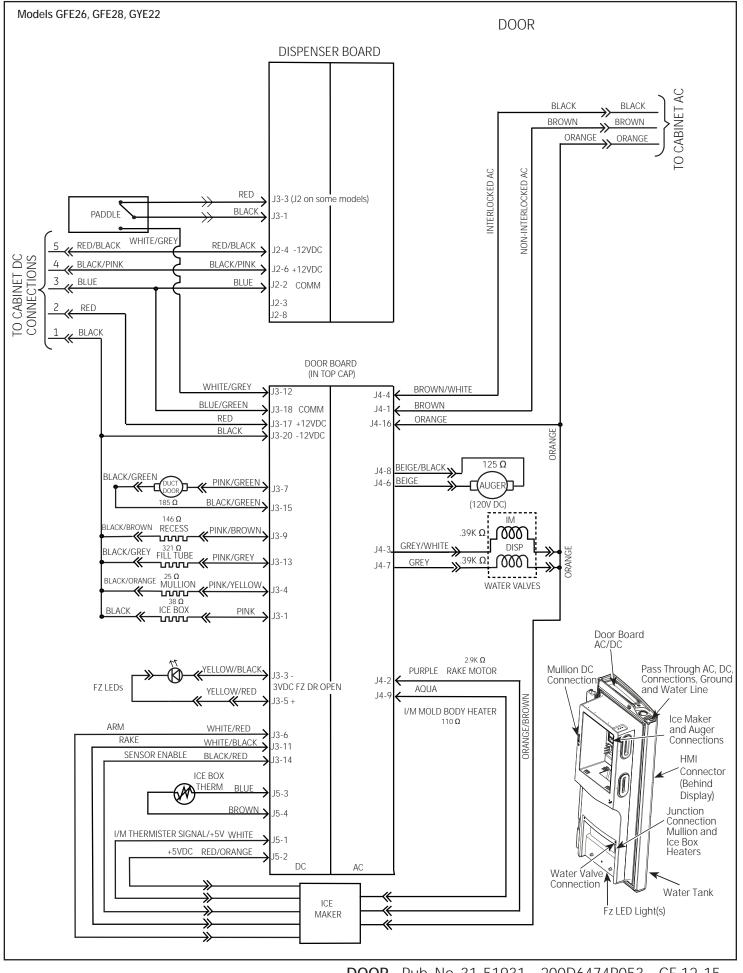
ICE MAKER THERMISTOR RESISTANCE/TEMP		
Temp F	Temp C	K-Ohms
-40	-40	207 k Ω
35.6	2	25.37 k Ω
39.2	4	23.27 k Ω
50	10	18.07 k Ω
59	15	14.75 k Ω
68	20	12.11 k Ω
77	25	10 k Ω
176	80	1.67 k Ω

Temp F	T 0	
	Temp C	K-Ohms
32	0	32.7 k Ω
41	5	25.4 k Ω
77	25	10 k Ω
95	35	6.5 k Ω
122	50	3.6 k Ω
149	70	2.1 k Ω
167	75	1.5 k Ω
185	85	1.07 k Ω



BLUE to BLACK - 2 to 4 VDC / FAN ON





DOOR - Pub. No. 31-51931 200D6474P053 GE 12-15