

Carrier Enterprise Mid South



Infinity[®] Evolution[®]

Dealer Certification Training





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CE Mid South Region Technical Support



800-264-2512 opt 3, then opt 1





Service Tech app



Carrier/Bryant Service Tech App





View Parts > View Juli Bit of relevant parts > Installation Installation flor store & tools > Diagnose Diagnose All Literature All related technical & Sales Terreture >
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Warranty Mode Second #

- Interactive Troubleshooting Tool NEW
- Barcode scanning of unit's serial or model number
- Warranty entitlement & service history
- Literature list for models and ability to search all available
- Bill of Material parts list including part supersession
- Tech Tips videos for installation guides, troubleshooting help and best practices



Service Tech app





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CE HVAC Pro+ app





Carrier Enterprise strives to make life as HVAC professionals easier and faster

Ads · Related to your search





25VNA8 Infinity® 18VS Variable Speed Heat Pump 24VNA9 Infinity® 19VS Variable Speed Air Conditioner with Puron® Refrigerant

turn to the experts

Service Manual







In 1996 Carrier Corporation introduced the first R-410A residential unit into the market and holds the trademark "Puron".



the environmentally sound refrigerant













Gas Furnace







Gas Pressure Verification/Adjustments

Check Inlet Gas Pressure

The inlet gas pressure must be checked with the furnace operating in maximum heat. This is necessary to make sure the inlet gas pressure does not fall below the minimum pressure of 4.5 in. w.c. for natural gas. The maximum inlet gas pressure is 13.6 in. of water column. If the inlet pressure is too low, you will not be able to adjust the manifold pressure to obtain the proper input rate. To check the inlet gas pressure:

Adjust Manifold Pressure - Maximum Heat

For proper operation and long term reliability, the manifold pressure must be adjusted within +/-2 percent of input rate on furnace rating plate.

The modulating furnace manifold pressure is set at two points. The first point is Maximum Heat. The second point is Minimum Heat. Do not adjust Intermediate Heat manifold pressure. Intermediate Heat manifold pressure is checked as part of the temperature rise, but is not adjustable. Always adjust Maximum Heat first, then Minimum Heat.

Adjust Manifold Pressure - Minimum Heat

To adjust manifold pressure to obtain input rate for Minimum Heat:

- 1. Turn SW1-2 ON and SW4-2 must be OFF.
- 2. Jumper R and W/W1 thermostat connections on control to start furnace.
- After the main burners ignite and the blower starts, confirm Minimum Heat manifold pressure is correct, based on the manifold pressure tables in the installation instructions.



AVG. GAS		SPECIFIC GRAVITY OF NATURAL GAS						
HEAT VALUE		0.58		0.60	0.62			
AT ALTITUDE	Orifice	Mnfld Press	Orifice	Mnfld Press	Orifice	Mnfld Press		
(Btu/cu ft)	No.	Max/Min	No.	Max/Min	No.	Max/Min		
900	43	3.8 /0.60	42	3.2 /0.50	42	3.3 /0.55		
925	43	3.6 /0.55	43	3.7 /0.60	43	3.8 /0.60		
950	43	3.4 /0.55	43	3.5 /0.55	43	3.6 /0.60		
975	44	3.7 /0.60	44	3.8 /0.60	43	3.4 /0.55		
1000	44	3.5 /0.55	44	3.6 /0.60	44	3.8 /0.60		
1025	44	3.3 /0.55	44	3.5 /0.55	44	3.6 /0.55		
1050	44	3.2 /0.50	44	3.3 /0.55	44	3.4 /0.55		
1075	45	3.7 /0.60	45	3.8 /0.60	44	3.3 /0.50		
1100	46	3.7 /0.60	46	3.8 /0.60	45	3.8 /0.60		





Clocking the Gas Meter

Requires information provided by Local Gas Company

Avg. Btuh/cu.ft. Avg. specific gravity Verify natural gas input rate by clocking meter.

NOTE: Contact your HVAC distributor or gas supplier for metric gas meter Tables, if required.

- 1. Turn off all other gas appliances and pilots served by the meter.
- 2. Move setup switches SW1-2 to ON position and SW4-2 to OFF. This keeps furnace locked in low--heat operation when only W/W1 is energized or high heat operation when R to W/W1 and W2 are jumpered.
- 3. Jumper R to W/W1 and W2. Run furnace for 3 minutes in maximum heat operation.
- 4. Measure time (in sec) for gas meter to complete one revolution and note reading. The 2 or 5 cubic feet dial provides a more accurate measurement of gas flow.
- 5. Refer to Table 18 for cubic ft. of gas per hr. Multiply gas rate cu ft./hr by heating value (Btuh/cu ft.) to obtain input rate.
- 6. If clocked rate does not match required input from Step 5, increase manifold pressure to increase input or decrease manifold pressure to decrease input. Repeat steps 3 through 5 until correct maximum heat input is achieved. See Fig. 68.

NOTE: Setup switches SW1-2 must be ON and SW4-2 must be OFF. This keeps furnace locked in minimum heat operation when R to W/W1 is energized. Repeat items 3 through 6 for minimum heat operation until minimum heat input is achieved.

- 7. Remove jumpers across thermostat connections to terminate the call for heat. Wait until the blower off delay is completed then reset 115-v power to furnace.
- 8. Restore furnace to normal operating condition.
- Remove jumpers across thermostat connections to terminate the call for heat. Wait until the blower off delay is completed.
- 10. Disconnect 115 VAC power to furnace.
- 11. Turn gas valve ON/OFF switch to OFF.
- 12. Remove water column manometer or similar device from manifold pressure tap.

	Table 18 – 0					
SECONDS	S	ZE OF TEST I	DIAL			
FOR 1 REVOLUTION	1 Cu Ft.	2 Cu Ft.	5 Cu Ft.			
10	360	720	1800			
11	327	655	1636			
12	300	600	1500			
13	277	555	1385			
14	257	514	1286			
15	240	480	1200			
16	225	450	1125			
17	212	424	1059			
18	200	400	1000			
19	189	379	947			
20	180	360	900			
21	171	343	857			
22	164	327	818			
23	157	313	783			
24	150	300	750			
25	144	288	720			
26	138	277	692			
27	133	267	667			
28	129	257	643			
29	124	248	621			
30	120	240	600			
31	116	232	581			
32	113	225	563			
33	109	218	545			
34	106	212	529			
35	103	206	514			
36	100	200	500			
37	97	195	486			
38	95	189	474			
39	92	185	462			
40	90	180	450			
41	88	176	439			
42	86	172	429			
43	84	167	419			
44	82	164	409			
45	80	160	400			
46	78	157	391			
47	76	153	383			
48	75	150	375			
40	70	147	0.67			



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CAUTION

PERSONAL INJURY AND/OR PROPERTY DAMAGE HAZARD

 Verify proper furnace operating conditions including ignition, gas input rate, air temperature rise, and venting according to these installation instructions.

CAUTION

FURNACE RELIABILITY HAZARD

Failure to follow this caution may result in unit component damage. Application of this furnace should be indoors with special attention given to vent sizing and material, gas input rate, air temperature rise, unit leveling, and unit sizing.

Furnace must operate within ranges of temperature rise specified on the furnace rating plate. Determine air temperature rise as follows:

- a. Place thermometers in return and supply ducts as near furnace as possible. Be sure thermometers do not see heat exchanger so that radiant heat does not affect readings. This practice is particularly important with straight-run ducts.
- b. When thermometer readings stabilize, subtract return-air temperature from supply-air temperature to determine air temperature rise.

Unit Size		045C1712	070C1412	070C1716	070C2120
	High	30-60	30-60	25-55	25-55
Cartified Temperature Rise Range °E (°C)	nign	(17-33)	(17-33)	(14-30)	(14-30)
Certilled Temperature Rise Range - F (C)	Low	20-50	30-60	15-45	15-45
	LOW	(11-28)	(17-33)	(8-25)	(8-25)











SW2

 Switch
 Description

 1 - 3
 A/C Setup Switches - Th (two-stage units) airflow, See C

When a UI is used, Airflow dip switch settings are ignored!

Unit Size: 090C21-20	Clg/0	F Switch Se	ttings				Externa	al Static Pr	essure (E	SP)			
Clg Switches	SW2-3	SW2-2	SW2-1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Clg Default:	OFF	OFF	OFF	1785	1805	1815	1835	1840	1855	1860	1850	1845	1835
CF Switches	SW3-3	SW3-2	SW3-1					1					
Low-Clg Default:	OFF	OFF	OFF	925	935	945	960	980	965	940	925	920	900
	OFF	OFF	ON	715	715	735	730	730		See Note 4			
	OFF	ON	OFF	925	935	945	960	980	965	940	925	920	900
Cooling Airflow	OFF	ON	ON	1040	1045	1030	1055	1060	1045	1060	1045	1030	1005
(SW2)	ON	OFF	OFF	1295	1320	1285	1335	1350	1340	1350	1335	1310	1300
Low-Cooling Airflow	ON	OFF	ON	1505	1525	1480	1480	1490	1475	1465	1455	1450	1445
(SW3)	ON	ON	OFF	1785	1805	1815	1835	1840	1855	1860	1850	1845	1835
	ON	ON	ON	2250	2265	2270	2265	2255	2245	2220	2175	2120	2060
	Maxi	mum Clg Air	flow ²	2375	2375	2375	2365	2330	2285	2235	2185	2140	2075
CF Switches	SW3-3	SW3-2	SW3-1										
Cont. Fan Default:	OFF	OFF	OFF	925	935	945	960	980	965	940	925	920	900
	OFF	OFF	ON	715	715	735	730	730			See Note 4		
	OFF	ON	OFF	925	935	945	960	980	965	940	925	920	900
Continuous Eon	OFF	ON	ON	1040	1045	1030	1055	1060	1045	1060	1045	1030	1005
Airflow (SW3)	ON	OFF	OFF	1295	1320	1285	1335	1350	1340	1350	1335	1310	1300
(2007)	ON	OFF	ON	1505	1525	1480	1480	1490	1475	1465	1455	1450	1445
	ON	ON	OFF	1505	1525	1480	1480	1490	1475	1465	1455	1450	1445
	ON	ON	ON	1505	1525	1480	1480	1490	1475	1465	1455	1450	1445
Heating (SW1)	Hig	gh Heat Airflo	ow ³	1590	1610	1605	1605	1600	1605	1610	1610	1615	1620
freating (Sw1)	Lo	w Heat Airflo	w ³	1425	1450	1440	1465	1470	1455	1450	1440	1435	1430







Clearance Requirements Refrigerant Piping Brazing with Nitrogen Evacuation Startup and Charging









REFRIGERANT PIPING LENGTH LIMITATIONS

Liquid Line Sizing and Maximum Total Equivalent Lengths[†] for Cooling Only Systems with Puron[®] Refrigerant:

The maximum allowable length of a residential split system depends on the liquid line diameter and vertical separation between indoor and outdoor units.

See Table below for liquid line sizing and maximum lengths :

Size	Liquid Line	Liquid Line		AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit B Vertical Separation ft (m)						BELOW Indo	or
	Connection	n Diam. w/TXV	0-5 (0-1.5)	6-10 (1.8-3.0)	11-20 (3.4-6.1)	21-30 (6.4-9.1)	31-40 (9.4-12.2)	41-50 (12.5-15.2)	51-60 (15.5-18.3)	61-70 (18.6-21.3)	71-80 (21.6-24.4)
		1/4	75	75	75	50	50				
024	3/8	5/16	250*	250*	250*	250*	250*	225*	175	125	100
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
026	2/9	5/16	175	150	150	100	100	100	75		
030	3/0	3//8	250*	250*	250*	250*	250*	250*	250*	250*	250*
048	3/8	3/8	250*	250*	250*	250*	250*	250*	230	160	
060	3/8	3/8	250*	250*	250*	225*	190	150	110		

Maximum Total Equivalent Length Outdoor Unit BELOW Indoor Unit

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

-- = outside acceptable range

Maximum Total Equivalent Length

Outdoor Unit ABOVE Indoor Unit

Size	Liquid Line	Liquid Line	Lid AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit ABOVE Indoor Vertical Separation ft (m)							
	Connection	Diam. w/TXV	25 (7.6)	26-50 (7.9-15.2)	51-75 (15.5-22.9)	76-100 (23.2-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-53.3)	176-200 (53.6-61.0)
		1/4	100	125	175	200	225*	250*	250*	250*
024	3/8	5/16	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
026	2/9	5/16	225*	250*	250*	250*	250*	250*	250*	250*
030	3/0	3/8	250*	250*	250*	250*	250*	250*	250*	250*
048	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*
060	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.





Deep Vacuum Method

- 1. Attach vacuum pump, (with new oil) and micron gauge to system.
- 2. Allow pump to run until 500 microns or below.
- 3. Turn off pump and close all valves, (micron gauge must still be attached to system).
- 4. Pressure must hold for 7 minutes below 1000 microns.



The deep vacuum method is the most positive way of assuring a system is free of air and moisture.









REFRIGERANT CHARGE ADJUSTMENTS

Liquid Line Size	Puron Charge oz/ft (g/m)
3/8	0.60 (17.74) (Factory charge for lineset = 9 oz / 266.16 g)
5/16	0.40 (11.83)
1/4	0.27 (7.98)

Units are factory charged for 15 ft (4.6 m) of 3/8" liquid line. The factory charge for 3/8" lineset 9 oz.(266.16 g). When using other length or diameter liquid lines, charge adjustments are required per the chart above.

Charging Formula:

[(Lineset oz/ft x total length) – (factory charge for lineset)] = charge adjustment

Example 1: System has 15 ft of line set using existing 1/4" liquid line. What charge adjustment is required?

Formula: (.27 oz/ft x 15ft) - (9 oz) = (-4.95) oz.

Net result is to remove 4.95 oz of refrigerant from the system

Example 2: System has 45 ft of existing 5/16" liquid line. What is the charge adjustment?

Formula: (.40 oz/ft. x 45ft) - (9 oz.) = 9 oz.

Net result is to add 9 oz of refrigerant to the system

NOTE: Conditions must be favorable for charging by subcooling method. Indoor temperature must be 70°F to 80°F (21.1°C to 26.7°C), and outdoor temperature must be 70°F to 100°F (21.1°C to 37.8°C). If outside these conditions, adjust charge for long line sets by weigh-in method.





FE4A Fan Coil



NOTE:

Nuisance sweating may occur if the unit is installed in a high humidity environment with low airflow.



Insulapack - R8-48100 Foil Bubble Wrap

Item: DW-48X100-BWNS-R8 MFR: R8-48100











ACCEPTABLE DUCT CONDITIONS



MINIMUM RPM TABLE

MODEL	SYSTEM SIZES	CFM RANGE	MIN RPM
FE4ANF002	018, 024, 030, 036	150 - 1200	300
FE4AN(B,F)003	024, 030, 036, 042	200 - 1400	285
FE4AN(B,F)005	030, 036, 042, 048	250 - 1600	275
FE4ANB006	036, 042, 048, 060	500 - 2000	275
FE5ANB004	024, 030, 036, 042	500 - 1400	275

MAXIMUM STATIC TABLE

MODEL	AIRFLOW DELIVERY	AVAILABLE STATIC PRESSURE
	525 CFM	1.00 in wc
	700 CFM	1.00 in wc
FE4ANF002	875 CFM	1.00 in wc
	1050 CFM	0.80 in wc
	1200 CFM	0.60 in wc
	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
FE4AN(B,F)003	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	0.80 in wc
	875 CFM	1.00 in wc
FE4AN(B,F)005	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc
	1600 CFM	0.50 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
FE4ANB006	1400 CFM	1.00 in wc
	1750 CFM	1.00 in wc
	2000 CFM	0.60 in wc
	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
FE5ANB004	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc



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Electronic Air Cleaner Connections

When using an electronic air cleaner with FE4A, FE5A fan coil, use airflow sensor part no. KEAAC0101AAA. The airflow sensor turns on electronic air cleaner when fan coil blower is operating.



Electronic Air Flow Sensor Part No. KEAAC0101AAA







59MN7A060V17--14

4TH digit of model number

N = Infinity





25VNA448A003







2ND digit of model number

8 = Evolution









Evolution[®] Extreme



Evolution[®]



Preferred









Infinity®









Model Plugs on all furnace, heat pump, and AC units.

Must be reused when replacing board!





MODEL PLUG CHART

MODEL	MODEL	PIN RESISTANCE (K.Q.)		
JLC	HK70EZ	1 - 4 (R1)	2 - 3 (R2)	
24	001	5.1	11	
25	001	5.1	11	
36	002	5.1	18	
48	003	5.1	24	
60	004	5.1	33	



Non-Communicating Setup with Communicating Furnace









Non-Communicating Setup with FE4A Fan Coil





Communicating Setup with Non-Communicating Outdoor



Note: O connection for heat pump use only.

A160037

Fig. 9 – Fan Coil Wiring with Non–Communicating Single–Stage AC / HP







Installation and Start-Up Instructions EVOLUTION NETWORK INTERFACE MODULE SYSTXBBNIM01

NIM is required for the following applications:

- 1. Ventilator HRV / ERV on Non-Zoned Systems only.
- 2. Dual Fuel applications with non-communicating heat pump.
- 3. Any 2-stage non-communicating AC or heat pump.





SYSTXXXTRB01

Translator Board

This Translator Board (TRB) acts as a bridge connection between the Network Interface Module or Zone Panel Control and the 12 Volt terminal block to the new ERV & HRV.



SYSTXCC4ZC01

SYSTXBB4ZC01





Not Required

Table 1 – NIM and TRB Requirements for Newest ERV/HRV

Infinity® System Control / Evolution® Connex™ Control	ERV Product	HRV Product	Network Interface Module SYSTXCCNIM01	Translator Board SYSTXXXTRB01
SYSTXCCITC01-B	ERVXXSVA1130	HRVXXSVA1130	Required	Required
SYSTXCCITC01-C	ERVXXSHA1130	HRVXXSHA1130	Required	Required
SYSTXCCICF01-B	ERVXXSVB1145	HRVXXSVA1160	Required	Required
SYSTXCCWIF01-B	ERVXXSHB1145	HRVXXSHA1160	Required	Required
SYSTXBBECC01-B	ERVXXSVA1150	HRVXXSVB1160	Required	Required
SYSTXBBECC01-C	ERVXXSHA1150	HRVXXSHB1160	Required	Required
SYSTXBBECF01-B SYSTXBBWEF01-B	ERVCRLHB1200	HRVCRLHB1250	Required	Not Required
	1			
Infinity® Zone Panel / Evolution® Zone Panel	ERV Product	HRV Product	Network Interface Module SYSTXCCNIM01	Translator Board SYSTXXXTRB01

HRVXXSVA1130

HRVXXSHA1130

HRVXXSVA1160

HRVXXSHA1160

HRVXXSVB1160

HRVXXSHB1160

HRVCRLHB1250

ERVXXSVA1130

ERVXXSHA1130

ERVXXSVB1145

ERVXXSHB1145

ERVXXSVA1150

ERVXXSHA1150

ERVCRLHB1200









Required

Required

Required

Required

Required

Required

Not Required



Infinity/Evolution







SYSTXCCICF01-В -В

SYSTXCCUID01--V Push-Button





SYSTXCCITW01-A







Demo Mode



A powered UI that can not communicate will enter Demo Mode. There are benefits to Demo Mode operation at the office.

- 1. Technicians can practice navigating prior to customer observation.
- 2. UI can be upgraded with latest software prior to installation.





Commissioning the system (initial power up or reboot)



- 1. Searching for indoor equipment...
- 2. Searching for outdoor equipment...
- 3. Indoor evaporator selection or Electric heat size (if not communicating)
- 4. Searching for SAM...
- 5. Searching for zones...
- 6. 'Filter type', Humidifier, UV light.
- 7. Equipment summary.
- 8. Airflow Verification.





Commissioning the system (initial power up or reboot)

equipmen t summary					
fan coil HP 2stage filter humidifier UV lights ventilator electric heater	FE4ANF003L00 25HNB936A003 Air Filter YES NO YES 15 KW				
back		done			
		رالس			





Commissioning the system (initial power up or reboot)

AIRFLOW VERIFICATION

Calculates static pressure, system cfm, and motor rpm, Normally 2 – 3 minutes to complete.



Static pressure check					
		v na			
Static Pressure	0.52				
Blower CFM:	1050	- 1995			
Blower RPM:	792	des series			
back		next			




Navigation

HOME SCREEN







Navigation

MAIN SCREEN







Navigation

MENU SCREENS









Navigation

Comfort Profiles



Z zo	copy one1		com fort pro	files
select	Home	Away	Wake	Sleep
cool to heat to	81 61	85 58	81 61	81 61
fan	AUTO	AUTO	AUTO	AUTO
back		j		done



























Navigation

Usually 10 – 15 seconds, cap turns green.



CAUTION: Recommend <u>NOT</u> showing homeowner this step!





Navigation

Installation & Service menus







Navigation

Installation & Service menus





Navigation

REBOOT! (installation/airflow verification)





Navigation

Settings/configurations





	setup	
zoning		
accessories		
utility curtail	ment	
hydronic airf	low	
back	i	done











Navigation

Information





servi	ce info	
run/fault history		\geq
model/serial numb	pers	
service phone nun	nber	
energy tracking		
back	dor	ne l





	last 10 system even ts		
heatpump:	07/30/21	fault	
	009 consecutive times	active	
heatpump:	09/18/20 high pressure switch open 002 consecutive times	fault	\sim
back	Ì	do	one

	last 10 system events		
furnace:	1/18/20 limit switch 012 consecutive times	fault	
furnace:	1/18/20 communication failure 002 consecutive times	fault	
back	Į	d	one





Navigation

Charging Variable Speed







Charging

Zoning must be disabled for checking charge!

All zoning functions are now off and dampers should open to 100%.





Charging

Weigh-In

refrigera	ntcharge			
charging cooling	htg check cha	arge		
pumpdown	refrige	rant charging setup		
evacuation	furnace coil:	CNP*31		
EXV position	line set:		line settings	
back	vapor line:	line set 5 ft		vaporline 5/8 in
pack				
	hack			
	back			
		cancel		sque
				2 M





Charging

Weigh-In







Charging

Heating Check Charge

refrigera charging cooling	htg chest
pumpdown	
evacuation	
EXV position	
back 🧃) done
	Carrier





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Charging

Heating Check Charge





Charging







Charging

refrigerant	charging setup	
furnace coil:	CNP*42	
line set:	5 ft	
vapor line:	3/4 in	
back	i	next

char	ging m	ode	selection
weigh in:	8	b	2oz (total charge)
service value	subc	:00	
system su)ol-a	uto)
system subc	ool-m	nan	ual
back		į	done

OAT between 65 - 100° F / IDB between 70 - 80° F / "service valve sub-cool" will be available.

When temperatures are outside this range; sub-cool option will be greyed out.

Inaccurate charging will result in fault codes and/or damage.





Charging



This is the charging screen with current operational information. Notice!!! <u>PLEASE WAIT!!!</u>

Countdown Stabilization time 22:18 mins.

Do not add or remove charge during this time. Your actual sub-cooling will change and if you rush this <u>you will be overcharged</u>.



Display shows the time has lapsed.

Notice: superheat is now displayed.







Navigation

Software Upgrades













SYSTXCCITC01-B

Infinity® System Control (Black)

*	Residential Contr 🗸	System Controls & Acce 🗸	SYSTXCCITC01-В 🗸
Over	view Documents		

DOCUMENTS









Series B Carrier[®] Infinity[®] System Control Version 4.05 Release Notes

September 9, 2021

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General



This document is provided in conjunction with the "hex" file BINF0405.hex, which comprises the executable code for the following Infinity System Control model numbers:

- SYSTXCCITC01-B
- SYSTXCCWIC01-B
- SYSTXCCICF01-B
- SYSTXCCWIF01-B

This software is ONLY compatible with these model wall controls.







When you have the UI and outdoor unit software loaded on the microSD card, your file structure should look like this screen shot below.

	Name	Date modified Type
> 📌 Quick access		
> 🥌 OneDrive - Carrier Enterprise, LLC	EQUIP	8/5/2020 4:10 PM File folde 9/28/2020 5:04 PM File folde
🗸 💻 This PC		
> 🧊 3D Objects		
> 📃 Desktop		
> 🔮 Documents		
> 🕂 Downloads		
> 🎝 Music		
> 📰 Pictures		
> 🛃 Videos		
> 🏪 Windows (C:)		
> 🔟 SDHC (E:)		
SDHC (E:)		
EQUIP		
TSTAT		





Software Updates

Update Methods

- •OTA (over the air)
 - Wall Control connected to WiFi, prompts for acceptance of new software
 - Wall Control Software and outside unit software
- •SD Card
 - Insert microSD card in Wall Control
 - Wall Control Software and outside unit software
- Service Tech App
 - Service Tool App connected to outdoor unit via BTM
 - Updates outdoor unit only (PCM, VFD, BTM)





Navigation

Dealer Logo Upload







Dealer Logo Upload

Infinity[®] Touch Control Dealer Logo Application Dealer Contact Information and Logo Upload Instructions

Step 1: Download the MyInfinity.air application to your computer.

Log onto the <u>MyInfinityTouch.carrier.com</u> website and go to the <u>Downloads</u> page.

Bryant[®] Evolution[®] Connex[™] Control Dealer Logo Application <u>Dealer Contact Information and Logo Upload Instructions</u>

Step 1: Download the MyEvolution.air application to your computer.

Log onto the <u>www.MyEvolutionConnex.com</u> website and go to the <u>Downloads</u> page.





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Reboot (7 steps)







Reboot (7 steps)












Reboot



- 1. Searching for indoor equipment...
- 2. Searching for outdoor equipment...
- 3. Indoor evaporator selection or Electric heat size (if not communicating)
- 4. Searching for SAM...
- 5. Searching for zones...
- 6. 'Filter type', Humidifier, UV light.
- 7. Equipment summary.
- 8. Airflow Verification.







NOT COMPATIBLE WITH VARIABLE SPEED OUTDOOR EQUIPMENT!







INSTALL / SERVICE MENUS

The **"INSTALL** / **SERVICE"** menus contain a set of vital information. This information enables the Installer or Service person to view a summary of what has been installed, etc. This information is not covered in the Owner's Manual.

To enter **INSTALL** / **SERVICE** menus, press and hold the **ADVANCED** button for at least ten seconds. The following menu will appear











Infinity/ Evolution Communication Troubleshooting



Communication







Communication







Communication



Communication troubleshooting

Step one: always verify low voltage <u>to</u> the device.

A status light means the board has 24 volts.







COMMUNICATIONS





A - Green = Data A (low voltage DC)
B - Yellow = Data B (low voltage DC)
C - White = COMMON
D - RED = 24 Vac

... that device should produce 2.5 - 4.5 Vdc

When any communicating device is powered with 24 Volts...

If a communicating device is powered but does not produce this DC voltage it must be replaced.

Golden Rule for Infinity Communication Troubleshooting

COMMUNICATIONS



Serial number example: 1218E21523 WEEK 12 YEAR 2018

INFINITY COMMUNICATIONS

A good communication signal will read 2.5 – 4.5 volts DC at <u>any point</u> in the system between the A and B terminals. DC voltage may appear to fluctuate.





INFINITY / EVOLUTION TROUBLESHOOTING

- 1. LED lights. Status (amber) and Communication (green)
- 2. Fault history (Last 10 System Events)
- 3. Service Manuals/Troubleshooting Guides
- 4. Technical Support (1-800-264-2512 opt 3, then opt 1)

COMMUNICATION TROUBLESHOOTING

No Display















Primary Voltage (230vac)
 Secondary Voltage (24vac)
 Low voltage fuse.

If all three check out; but no 24 Vac between C and D; replace the board.

Most common causes of 24 Vac loss to UI? Improperly installed float switch.



Most common causes of 24 Vac loss to UI? Improperly installed float switch.



Float switch must be wired and programmed properly.



At User Interface (Installation & Service) menu select:

SETUP > FURNACE/FAN COIL > G TERMINAL > YES > SHUTDOWN > NORMALLY CLOSED > SAVE

COMMUNICATION TROUBLESHOOTING

Indoor Not Communicating





- 1. Remove all devices from communication circuit except the indoor unit and UI.
- 2. Reboot the UI. (retry)





- Reboot the UI. (retry) 2.
- 3. Begin troubleshooting outdoor signal.







1. Isolate all communication circuits.

- 1. Isolate all communication circuits.
- 2. With indoor unit and UI powered, test VDC on both devices, A to B.



- 1. Isolate all communication circuits.
- 2. With indoor unit and UI powered, test VDC on both devices, A to B.



1. Remove UI and back plate from current location and take to indoor equipment.





- 1. Remove UI and back plate from current location and take to indoor equipment.
- 2. Using a short piece of wire, (2-3 feet), connect UI to indoor unit.



- 1. Remove UI and back plate from current location and take to indoor equipment.
- 2. Using a short piece of wire, (2-3 feet), connect UI to indoor unit.
- 3. Power on and watch for reboot.


What is the problem?

Interference between the original UI location and indoor unit.

select evaporator coil...

Full communication has been established

А

В

С

D

- 1. Remove UI and back plate from current location and take to indoor equipment.
- 2. Using a short piece of wire, (2-3 feet), connect UI to indoor unit.

В

С

D

3. Power on and watch for reboot.

Wiring, connections, sub-base, UI, or outside interference, (i.e., radio transmissions).

4. Connect outdoor unit and reboot.

В

С

D

RERUN

- 1. Remove all devices from communication circuit except the indoor unit and UI.
- 2. Reboot the UI. (retry)



Remove all devices from communication 1. RERUN circuit except the indoor unit and UI. Reboot the UI. (retry) 2. 3. Begin troubleshooting outdoor signal. Furnace / Fan Coil υ ш searching for indoor equipment Indoor communication established. Conter User Interface Α Α В В Heat Pump / A/C С С D D

- 1. Begin troubleshooting outdoor signal.
- 2. Isolate the outdoor communication bus.



- 1. Begin troubleshooting outdoor signal.
- 2. Isolate the outdoor communication bus.
- 3. Measure Vdc on wires and board.



- 1. Begin troubleshooting outdoor signal.
- 2. Isolate the outdoor communication bus.
- 3. Measure Vdc on wires and board.





- 1. Remove UI and back plate from current location and take to outdoor equipment.
- 2. Connect communication wires from indoor unit to UI.







1.

Remove UI and back plate from current







Service Tool





When the 2nd UI starts to communicate with the system, the main UI indoor displays "Service Tool attached" and it becomes inactive. The 2nd UI has only the service screen menus.









last 10 system even ts						
heatpump:	07/30/21 low pressure switch open	fault				
	009 consecutive times	active				
heatpump:	09/18/20 high pressure switch open	fault				
	002 consecutive times		\sim			
back	۲	do	one			

last 10 system events						
furnace:	1/18/20 limit switch 012 consecutive times	fault				
furnace:	1/18/20 communication failure 002 consecutive times	fault				
back	i	c	lone			





Service Manuals





24ANB1

Infinity® 21 Central Air Conditioner





Residential Air Conditioners and Heat Pumps Using R-22 and Puron® Refrigerant



Turn to the experts

Application Guideline and Service Manual

UNIT IDENTIFICATION
SAFETY CONSIDERATIONS
INTRODUCTION
INSTALLATION GUIDELINE
Residential New Construction
Add-On Replacement (Retrofit) - R22 to Puron 4
Seacoast
Accessories
ACCESSORY DESCRIPTIONS
LOW-AMBIENT COOLING GUIDELINE
LONG LINE GUIDELINE
CABINET ASSEMBLY
Basic Cabinet Designs
Access Compressor Or Other Internal Cabinet Components9
Labeling
ELECTRICAL
Aluminum Wire
Contactor

Service Valves and Pumpdown
Liquid Line Filter Drier
Suction Line Filter Drier
Accumulator
Thermostatic Expansion Valve (TXV)
Make Piping Connections
REFRIGERATION SYSTEM REPAIR
Leak Detection
Coil Removal
Aluminum Coil Removal
Compressor Removal and Replacement
System Clean-Up After Burnout
Evacuation
Check Charge
TROUBLESHOOTING with SUPERHEAT
Single-Stage Communicating Heat Pump System Functions and Se-
quence of Operation
Sequence of Operation





Service Manuals

May cover multiple units.

	Pressure Switches
	Defrost Thermostat
	Defrost Control Boards 15
	HK32EA001/007 DEFROST CONTROL15
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	System function and Sequence of operation (HK32EA003/008) 17
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	HK32EA011 DEFROST CONTROL 18
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	PSC Fan Motor
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	LG SCROLL COMPRESSOR
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	Compressor Failures

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Airflow Selection for FV4 Fan Coils for 24ANB1, 24ANB7,
25HNB6, 25HNB9 Using Non-Communicating (Non-Infinity) Ther-
mostats
GENERAL INFORMATION





Status LED is amber on green background.



- 1. Fault codes are generally two-digit numbers.
- 2. The number of short flashes indicates first digit of code.
- 3. The number of long flashes indicates second digit of code.
- 4. A short flash is 0.25 seconds on. A long flash is one second on.
- 5. The time between flashes is 0.25 seconds.
- 6. The time between last short flash and first long flash is 1 second.
- 7. The LED will be off for 2.5 seconds before repeating code.





AMBER LED DESCRIPTION	SERVIO * FLASH CODE (Amber FD)	CE RESET TIME (Minimum) Minutes	* * TYPE	10 Minute Stage 2 Warmup Delay	sh flas	ort shes	long flashes Event	
Standby	ON no flash			Compressor Dranged Out	71	6	System Maturiction	
Variable	City, no hadn			Suction Over Temperature Event	72	15	Local	_
Capacity	1, pause			Discretor remperature Event	/4	7 0005		_
Mode	.,			Maximum Power Mode-Temp	75	N/A	Local	
Variable	1 (2 sec ON),			Fan Inverter Lockout	76	2 Hours	System Malfunction	
Range	longer pause			Maximum Power Mode-Comp Current	77	N/A	Local	
Cutback	(1 second UHF)			Operational Investor Fault	70	6	Local	
				Compressor/Inverter Fault	19	0	2000	
2-stage "LOW" Capacity	1, pause			Suction Over Temp Lockout	82	4 Hours	System Malfunction	
2-stage LOW Capacity 2-stage LOW Capacity	finity® finity® ® Ref	9 18VS 9 19VS rigerar	Variable Sp Variable Sp nt	eed Heat Pump eed Air Conditioner	turn to	4 Hours	System Malfunction	
2-stage "LOW" Capacity 2-stage "LOW" Capacit	finity® finity® ® Ref	9 18VS 9 19VS rigerar	Variable Sp Variable Sp nt	eed Heat Pump eed Air Conditioner	turn to	4 Hours	System Malfunction	
2-stage "LOW" Capacity 2-stage "LOW" Capacit	1, pause finity® finity® ® Ref	0 18VS 0 19VS rigerar	Variable Sp Variable Sp nt CCE	eed Heat Pump eed Air Conditioner	turn to	4 Hours	System Malfunction	REV.A
2-stage "LOW" Capacity 2-stage "LOW" Capacit	1, pause finity® finity® ® Ref	6 La 6 La 6 Figerar	Variable Sp Variable Sp nt CCE Servic	eed Heat Pump eed Air Conditioner	turn to	the exp	System Malfunction	REV. A



Flash Code	Туре	Amber LED Description	Reset Time	Mode	Possible Causes	Actions				
68	Event	10 MIN STAGE 2 WARMUP DELAY	10 Min- utes	Both	High voltage power cycle	No action				
				Cool	Overcharged System	Check system subcooling to determine charge status, if high remove charge using Charging Mode (follow proper charging procedures)				
69	System	System INVERTER/COMPRESSOR INTERNAL FAULT (Elevates to this fault code after 5 hid- den occurrences of itself)	15 Min- utes	15 Min-	Heat	Overcharged System	Check charge in heating mode per heating check charge chart. If pressures do not match then pull out charge, weigh in using heating charge method			
69 Mai	Malfunction				Phase imbalance/ compressor or in- verter miswire	Check compressor winding resistance or miswire of compressor leads at terminals U,V,W				
								Both	Flooded start	Troubleshoot EXV & TXV
					Inverter damage	Replace inverter				
					Compressor dam- age	Replace compressor				
71	Event	Event COMPRESSOR DROPPED OUT	6 Minutes	6 Minutes	Both	MOC is reporting that compressor isn't running	Refer to TIC 2015-0017 for more details			
					3T Inverter enters test mode	Replace inverter with latest software				
72	Local	SUCTION OVER TEMPER- ATURE EVENT (elevates to fault code 82 after 3 occurrences)	15 Min- utes	Both	Refer to fault code 82					

Table 6—Fault Code Actions





Flash Code	Туре	Amber LED Description	Reset Time	Mode	Possible Causes	Actions			
79	Local	Local (Elevates to fault code 88		COMPRESSOR/INVERTER FAULT (Elevates to fault code 88 6 Minute	COMPRESSOR/INVERTER FAULT (Elevator to fault code 88 6 Min	6 Minutes	Both	Compressor fails to start	System will try to self-mitigate with repeat- ed start attempts
		after 5 occurrences)				Refer to fault code 88			
		ystem function SUCTION OVER TEMP LOCKOUT (Elevated from fault code 72 after 3 occurrences)		Cool	Undercharged Sys- tem	Check system subcooling to determine charge status, if low add charge using Charging Mode (follow proper charging procedures)			
			SUCTION OVER TEMP LOCKOUT (Elevated from fault code 72 after 3 occurrences)	4 Hours	Cool	Uninsulated vapor line	Insulate the vapor line		
82	System				Cool	Indoor TXV opera- tion	Troubleshoot TXV		
	82 Malfunction				Heat	Undercharged Sys- tem	Check charge in heating mode per heating check charge chart. If pressures do not match then pull out charge, weigh in using heating charge method		
					Heat	Outdoor EXV opera- tion	Troubleshoot EXV		
				Both	Reversing valve by- pass	Troubleshoot reversing valve			

Suction Temp Sensor Fault	54	N/A	Fault





VNA4: Installati	ion Instructions	4 (digits reported to UI	
	Cadat	X	Table / - Faun Code Table	Description
	Code			Description
		Expansion		
Base	Fault**	Malfunction***	6	Bluetooth
14	94		Line Voltage Low	
15	94		Line Voltage High	
17	06		PCM-Bluetooth Module Communication F	Failure
18	11		Indoor Coil Freeze Protection	
24		58	5V PCM External Power Out of Range	
		61	Invalid Model Plug	
25	22	62	Model Plug Missing	
25	24		Model Plug Changed	
		63	VFD/Equipment Model Mismatch	
	26		PCM MCU Old Version	
26	27		PCM Reprogramming Failure	
	31		EEPROM Write Failure	
20		71	Fuse 1 Open (PEV / RVS)	
28		72	Fuse 2 Open (LLV)	
	11	58	Compressor High Pressure Limit	
31	16		High Pressure Switch Trip	
	19		High Pressure Disable	
22	15	55	Compressor Low Pressure Limit	
32		59	Low Pressure Disable	





2 digits: general fault family



20VINA4: Installati	on instructions		Table 7 – Fault Code Table			
[_ode*	ŧ	Description			
		Expansion				
Base	Fault**	Malfunction***		Bluetooth [®]		
14	94		Line Voltage Low			
15	94		Line Voltage High			
17	06		PCM-Bluetooth Module Communica	tion Failure		
18	11		Indoor Coil Freeze Protection			
24		58	5V PCM External Power Out of Ran	ge		
		61	Invalid Model Plug			
25	22	62	Model Plug Missing			
25	24		Model Plug Changed			
		63	VFD/Equipment Model Mismatch			
	26		PCM MCU Old Version			
26	27		PCM Reprogramming Failure			
	31		EEPROM Write Failure			
20		71	Fuse 1 Open (PEV / RVS)			
20		72	Fuse 2 Open (LLV)			
	11	58	Compressor High Pressure Limit			
31	16		High Pressure Switch Trip			
	19		High Pressure Disable			
22	15	55	Compressor Low Pressure Limit			
52		59	Low Pressure Disable			





		2 0	ligits: specific prob	lem	
25VNA4: Installa	tion Instructions		Table 7 – Fault Code Table	10	
	Code*			Description	
		Expansion			
Base	Fault**	Malfunction***		Bluetooth [®]	
14 15	"Faul	t" indica	tes a system e	error and	
17	•••	• •		• •	
18	will ty	pically c	lear itself in 5	minutes.	
24					
		61	Invalid Model Plug		
25	22	62	Model Plug Missing		
	24		Model Plug Changed		
		63	VFD/Equipment Model Mismatch		
	26		PCM MCU Old Version		
26	27		FCM Reprogramming Failure		
	31	74	EEPROM Write Failure		
28		70	Fuse 2 Open (IEV / RVS)		
	- 11	12 E0	Compressor High Pressure Limit		
31	16	50	High Pressure Switch Trip		
51			High Pressure Disable		
ļ	15	55	Compressor Low Pressure Limit		
32	13	59	I ow Pressure Disable		







"Malfunction" indicates repetitive occurrence of a Fault. Likely a more serious problem. Remains until condition clears or after 4 hours.

	25		61	Invalid Model Plug
		22	62	Model Plug Missing
		24		Model Plug Changed
			63	VFD/Equipment Model Mismatch
	26	26		PCM MCU Old Version
		27		PCM Reprogramming Failure
		31		EEPROM Write Failure
	28		71	Fuse 1 Open (PEV / RVS)
	20		72	Fuse 2 Open (LLV)
		11	58	Compressor High Pressure Limit
	31	16		High Pressure Switch Trip
		19		High Pressure Disable
1	32	15	55	Compressor Low Pressure Limit
			59	Low Pressure Disable





25VNA4: Installation Instructions

Table 8 - Malfunction Lockout Durations

Code	Title	Time
24-58	5V PCM External Power Out of Range	Duration of Event
25-61	Invalid Model Plug Malfunction	Duration of Event
25-62	Model Plug Missing Malfunction	Duration of Event
25-63	VFD Model Mismatch	Permanent*
28-71	Fuse 1 Open Malfunction	Permanent*
28-72	Fuse 2 Open Malfunction	Permanent*
31-58	Compressor High Pressure Limit Malfunction	2 hours
32-55	Compressor Low Pressure Limit Lockout	2 hours
32-59	Low Pressure Disable	Permanent*
33-55	Compressor Low Discharge Limit Lockout	2 hours
34-58	Compressor High Temperature Limit Malfunction	2 hours
35-58	Compressor High Compression Limit Malfunction	2 hours
36-55	Compressor Low Compression Limit Lockout	2 hours
38-53	Compressor Starting Malfunction	4 hours
38-54	Compressor No Pump	30 minutes
38-71	VFD Estimator Malfunction	4 hours
39-53	Fan Start Malfunction	1 hour
39-55	Unexpected Fan Shutdown Malfunction	4 hours
39-58	Fan Motor Malfunction	30 minutes
53-41	OST Open / Low Temp	Duration of Event
53-42	OST Shorted / High Temp	Duration of Event
57-41	P1 Open Malfunction	Duration of Event
57-42	P1 Shorted Malfunction	Duration of Event
57-43	P1 Sensor Malfunction	Permanent*
58-41	P2 Open Malfunction	Duration of Event
58-42	P2 Shorted Malfunction	Duration of Event
50.40	P2 Sensor Malfunction	Dermanent*
58-43	F2 School Manufication	Fernanent

Table 8 - Malfunction Lockout Durations (Continued)

Code	Title	Time
64-41	EXV-H Phase Open	Duration of Event
64-44	EXV-H Power Short to Ground	Duration of Event
64-45	EXV-H Phase Short to Ground	Duration of Event
65-41	EXV-VI Phase Open	Duration of Event
65-44	EXV-VI Power Short to Ground	Duration of Event
65-45	EXV-VI Phase Short to Ground	Duration of Event
66-41	VFD Control Relay Coil Open	Duration of Event
66-42	VFD Control Relay Coil Shorted	Duration of Event
81-53	PFC Malfunction	1 hour
81-54	Unbalanced PFCM Malfunction	4 hours
81-58	VFD System Wiring Error	4 hours
82-53	VFD Reset with Power Dropout Malfunction	1 hour
82-55	VFD Shutdown with Power Dropout Malfunction	2 hours
82-56	Low Voltage Shutdown Malfunction	1 hour
82-57	Line Over Voltage Malfunction	1 hour
83-55	Compressor Current Limit 3 Lockout	2 hours
83-56	Compressor Current Limit 4 Lockout	2 hours
83-57	Compressor Underspeed Shutdown	1 hour
84-58	VFD Overtemp Malfunction	2 hours
85-53	DC Under Voltage Malfunction	1 hour
85-54	DC Over Voltage Malfunction	1 hour
86-46	VFD Communication Malfunction	1 hour
87-53	VFD Initialization Malfunction	4 hours
88-55	Unexpected VFD Reset Malfunction	1 hour
88-71	VFD Internal Malfunction - Current Sensor	4 hours
88-73	VFD Internal Malfunction - DC Link Sensor	4 hours
88-74	VFD Internal Malfunction - PFCM Sensor A	4 hours
88-75	VFD Internal Malfunction - PFCM Sensor B	4 hours
88-76	VFD Internal Malfunction - Line Volt Sensor	4 hours
88-78	VFD Internal Malfunction - DC Discharge	4 hours

CE





25VNA4: Installation Instructions

Code*			Description
Base	Eaultit	xpansion	Bluetooth [°]
	rault	Manuncuon	
14	94		Line Voltage Low
15	94		Line Voltage High
17	06		PCM-Bluetooth Module Communication Failure
18	11		Indoor Coil Freeze Protection
24		58	5V PCM External Power Out of Range
		61	Invalid Model Plug
25	22	62	Model Plug Missing
25	24		Model Plug Changed
		63	VFD/Equipment Model Mismatch
	26		PCM MCU Old Version
26	27		PCM Reprogramming Failure
	31		EEPROM Write Failure
28		71	Fuse 1 Open (PEV / RVS)
20		72	Fuse 2 Open (LLV)
	11	58	Compressor High Pressure Limit
31	16	\longrightarrow	High Pressure Switch Trip
	19		High Pressure Disable
32	15	55	Compressor Low Pressure Limit
52		59	Low Pressure Disable

Table 7 – Fault Code Table





Code 31-16 "High Pressure Switch Trip"

This system contains a 670-psi high pressure switch as well as a discharge pressure transducer.

This fault should not occur as the pressure transducer utilizes a separate high-pressure limit at a lower setting.

In the case of a fast transient this switch will safely disable system operation. This switch is connected directly to VFD and a break or short in wire harness during high pressure events will also generate fault.





Code 31-16 "High Pressure Switch Trip"

...continued

The high-pressure switch quickly shuts down high voltage to VFD and additional communication faults may occur since the VFD will cease to communicate with PCM.

The PCM/VFD will not attempt to resume system operation until discharge pressure has dropped below 425 psig. Ensure HPS is closed and securely connected to VFD







Gas Furnace Component Self-Test

- 1. Power OFF.
- 2. Disconnect 'R' thermostat lead or communication plug.
- 3. Power ON.
- 4. Turn SW1-6 'ON'.
- 5. Turn SW1-6 'OFF'

Inducer motor high speed. (will run through entire test) Hot surface ignitor. (15 seconds) Blower motor. (15 seconds) Inducer motor low speed. (10 seconds)

One or more of the following codes will flash:

- 11 Blower motor OK.
- 25 Set up error.
- 41 Blower motor fault.









Variable Speed, Modulating Electronic Condensing Four-Way Multipoise Gas Furnace

59MN7A Series 100 TROUBLESHOOTING GUIDE

DACE

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Carrier

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SAFETY CONSIDERATIONS

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair, or service heating equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils, or cleaning and replacing filters. All other operations





Sequence of Operation		
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PRINTED CIRCUIT BOVRD	Status Code 14 - Ignition Lockout	
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100012 1252 2000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1000 12 1	Status Code 22 - Pressure Switch Did Not Open 18	CONDITIONING RELAY DISABLE JUMPER
1080 1080 1080 1080 1080 1080 1080 1080	Status Code 24 - Secondary Voltage Fuse Is Open 19	P e e e e e e e e e e e e e e e e e e e
BisED ON Bis20 00(7) 1225 1400 225 1400 225 14000 225 14000 225 14000 225 1400	Status Code 25 - Model Selection or Setup Error 21	UPGRADE CONNECTOR (FACTORY ONLY)
250 CPM/T0 1226 CPM/T0 1750(1) 17 1750(1) 17 17 1750(1) 17 17 1750(1) 17 17 17 17 17 17 17 17 17 17 17 17 17 1	Status Code 31 - Medium Pressure Switch High Pressure Switch or	
	PSR Relay did not Close or Reopened 22	PL3 – ECM BLOWEF HARNESS CONNECTOR
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4	Status Code 43 - Low or Medium Pressure Switch Open While	
	Medium or High Pressure Switch Is Closed 37	



STA	RT HERE - If a problem exists, the service techniciar	n should	always	begin
trou	bleshooting here.			
Specia	Continuous-Blower Mode		6	nual. They
are not FURNA	Heat Pump Defrost		7	ULATING
STE	Component Test		7	GO TO
1.	Service/Status Code Instructions		8	
	Start Here		10	
2.	Rapid Flashing AMBER LED		11	
	Improper Cooling Air Flow		12	
	Minimum and/or Maximum Heat Temperature Rise Too I		14	
3.	Status Code 11 - No Previous Code		15	INDEX
	Status Code 12 - Blower On After Power Up		15	
5.	Status Code 13 - Limit Circuit Lockout		16	6
6.	Go to page number indicated in the Index for the section covering the status code.			INDEX
7.	Remove blower door and depress door switch. Use a piece of tape to hold it closed. To			8
	You must read and follow the step-by-ste	e <mark>p inst</mark>	ructio	ns!
-	status code history. The status codes will flash in the order of occurrence. Read status codes			
	until an 11 code flashes. After the 11 code flashes the status codes will repeat.	0	10	
δ.	was mere a previous status code other than code 11?	У	10	
	Note: Status codes are erased after 72 hours or can be manually erased by putting setup switch			
	SW1-1 in the ON position and jumpering R, W/W1, and Y/Y2 simultaneously until status			
	code 11 is flashed.			





START	H	ERE - If a problem exists. the service technician	<u>shoul</u> d	always	begin
troubles	sho	Service/Status Code Instructions	8	-	-
Special No	te: A	Start Here	10 ou	bleshooting ma	mual. They
are not abso	lute 1	Rapid Flashing AMBER LED	11 📲	EN ON MOD	ULATING
FUNINACES		Improper Cooling Air Flow	12 🗖		1
STEP		Minimum and/or Maximum Heat Temperature Rise Too Low	14	NO	GO TO
1.	DO	Status Code 11 - No Previous Code	15	19	
	Ser	Status Code 12 - Blower On After Power Up	15		
	Is A	Status Code 13 - Limit Circuit Lockout	16		
2.	Is ti	Status Code 14 - Ignition Lockout	17	4	
	No	Status Code 15 - Blower Motor Lockout	17		
	blir	Status Code 21 - Gas Heating Lockout	17		
	Go	Status Code 22 - Abnormal Flame-Proving Signal	18 -		INI EX
4.	Is t Ion	Status Code 23 - Pressure Switch Did Not Open	18	7	
5.	Det	Status Code 24 - Secondary Voltage Fuse Is Open	19		6
	the	Status Code 25 - Model Selection or Setup Error	21		
6.	Go Ret	Status Code 31 - Medium Pressure Switch, High Pressure Switch	. or		INDEX
		PSR Relay did not Close or Reopened			
Y	OU	Status Code 32 - Low Pressure Switch Did Not Close or Reopened	25	ructio	ns!
	stat	Status Code 33 - Limit Circuit Fault	27		
	unt	Status Code 34 - Ignition-Proving Fault	29		
8.	Wa	Status Code 35 - Gas Valve Fault	31	10	
	No	Status Code 41 - Blower Motor Fault	33		
	SW	Status Code 42 - Inducer Motor Fault	35		
	cod	Status Code 43 - Low or Medium Pressure Switch Open WI	hile		
		Medium or High Pressure Switch Is Closed	37		

E



Status Code 13

LIMIT CIRCUIT LOCKOUT – Lockout occurs if the limit or flame rollout switch is open longer than 3 minutes or 10 successive limit trips occurred during maximum-heat. The modulating furnace control will auto-reset in 3 hours. Flame roll-out switch(es) FRS require manual-reset.

STEP	ACTION	YES	NO	GO TO
1.	Remove the blower door. Disconnect User Interface ABCD connector (if used) or the R			2
	thermostat lead (if used) from the furnace control board.			
2.	Depress the door switch. Use piece of tape to hold it closed.			3
3.	Does status code 33 flash?	11	4	
4.	Does a different status code flash?	5	6	
5.	Go to page number indicated in the Index for the section covering the status code.			INDEX
6.	Jumper R and W/W1 thermostat terminals.			7
7.	Observe the furnace operation for 25 minutes or until status code starts flashing.			8
8.	Does status code 33 flash?	26	9	
9.	Does a different status code flash?	5	10	
10.	Go to page number indicated in Index for CLEANUP AND START-UP INSTRUCTIONS.			INDEX
11.	Is 24-vac across connector terminal PL1-6 and Com-24V on modulating furnace control?	13	12	
12.	Replace the modulating furnace control.			10
13.	Is 24-vac across connector terminal PL1-8 and COM-24V on modulating furnace control?	12	14	
14.	Turn power off.			15
15.	Do you have continuity across limit switch LS?	17	16	
16.	Replace limit switch LS.			10
17.	Do you have continuity across each flame rollout switch FRS?	25	18	
18.	Can flame rollout switch FRS be reset?	20	19	

You must read and follow the step-by-step instructions!











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÷	Troubleshooting	≡
Interac (Beta) Choose a	tive Troubleshooting	
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58CTW	1	>
8CVA		×
58MTB		>
59TP5		•
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Heat P	ump	*
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÷	Troublesho	ot	≡
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÷	Troubleshoot	≡		
1. Start furnace using procedure outlined				
on Lighting Instructions attached to furnace.				
Observe operation of furnace through at				
least 1 complete heating cycle controlled				
for we then up and the sum a state. Observe a state				

from the room thermostat. Observe cycle for 20 minutes or until a status code is flashed. If status code flashes, refer to the Index.

 Recycle as necessary and check thermostat heat anticipator setting, gas input rates, and temperature rises. These procedures are outlined in Installation, Start-Up,and Operating Instructions.
Check operation of safety devices: limit switch and flame rollout switch.
Put all setup switches in their proper

positions.

Back

5. Remove tape from the door switch.

Replace thermostat leads (if necessary).
Set thermostat in AUTO position, calling for heat.

8. Set thermostat to desired temperature.

9. Replace both furnace doors. Clean up.

C Restart

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