25HNB9
Infinity® 19 2–Stage Heat Pump with Puron® Refrigerant 2 to 5 Nominal Tons

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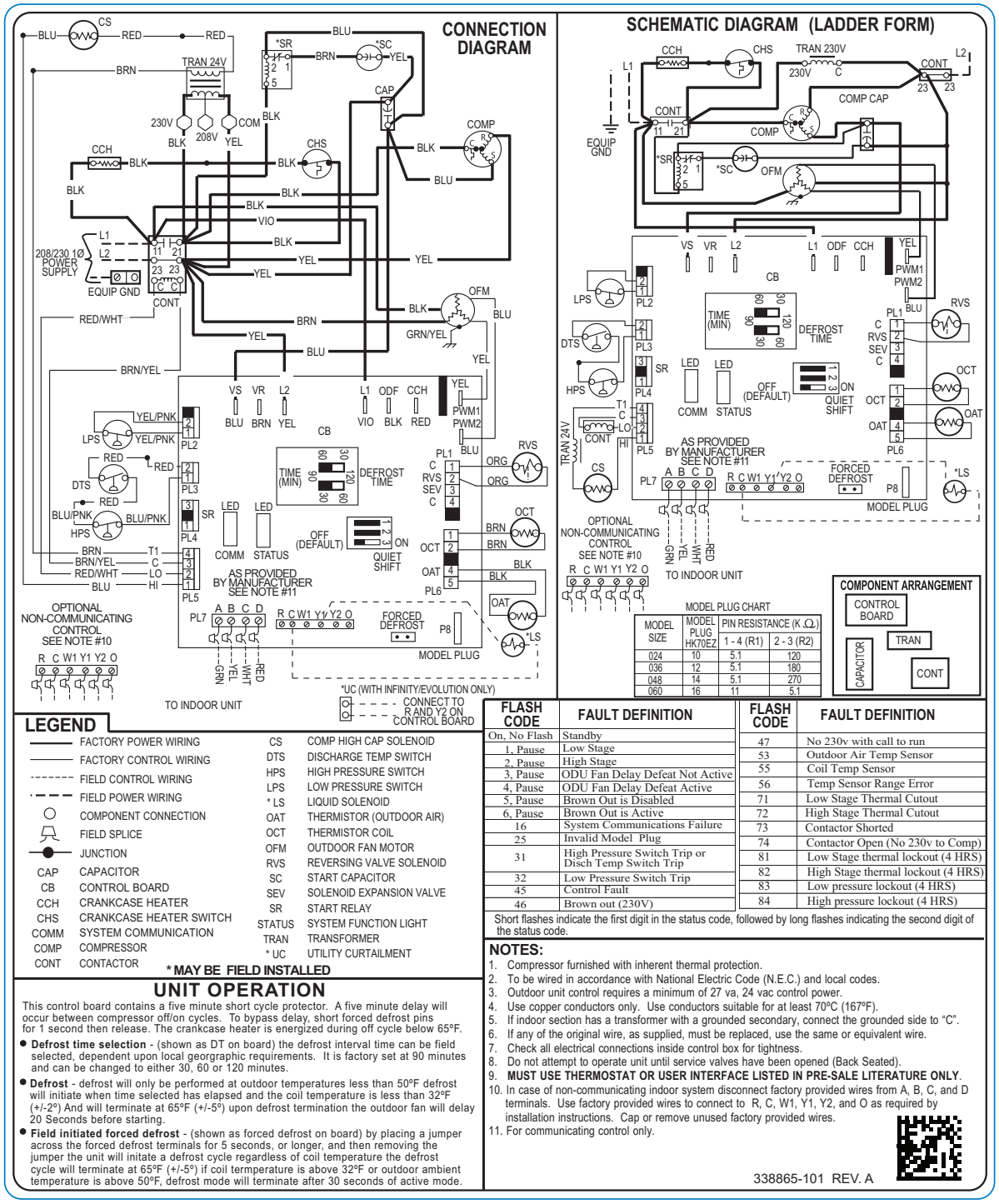
Wiring Diagram



MODEL SIZE	MODEL PLUG HK70EZ	PIN RESISTANCE (K Ω) 1 - 4 (R1)	2 - 3 (R2)
024	10	5.1	120
036	12	5.1	180
048	14	5.1	270
060	16	11	5.1

LEGEND

FACTORY POWER WIRING	
FACTORY CONTROL WIRING	
FIELD CONTROL WIRING	
FIELD POWER WIRING	
COMPONENT CONNECTION	
FIELD SPLICE	
JUNCTION	
CAP	CAPACITOR
CB	CONTROL BOARD
CCH	CRANKCASE HEATER
CHS	CRANKCASE HEATER SWITCH
COMM	SYSTEM COMMUNICATION
COMP	COMPRESSOR
CONT	CONTACTOR
CS	COMP HIGH CAP SOLENOID
DTS	DISCHARGE TEMP SWITCH
HPS	HIGH PRESSURE SWITCH
LPS	LOW PRESSURE SWITCH
* LS	LIQUID SOLENOID
OAT	THERMISTOR (OUTDOOR AIR)
OCT	THERMISTOR COIL
OFM	OUTDOOR FAN MOTOR
RVS	REVERSING VALVE SOLENOID
SC	START CAPACITOR
SEV	SOLENOID EXPANSION VALVE
SR	START RELAY
STATUS	SYSTEM FUNCTION LIGHT
TRAN	TRANSFORMER
* UC	UTILITY CURTAILMENT

*** MAY BE FIELD INSTALLED**

FLASH CODE	FAULT DEFINITION
On, No Flash	Standby
1, Pause	Low Stage
2, Pause	High Stage
3, Pause	ODU Fan Delay Defeat Not Active
4, Pause	ODU Fan Delay Defeat Active
5, Pause	Brown Out is Disabled
6, Pause	Brown Out is Active
16	System Communications Failure
25	Invalid Model Plug
31	High Pressure Switch Trip or Disch Temp Switch Trip
32	Low Pressure Switch Trip
45	Control Fault
46	Brown out (230V)

FLASH CODE	FAULT DEFINITION
47	No 230v with call to run
53	Outdoor Air Temp Sensor
55	Coil Temp Sensor
56	Temp Sensor Range Error
71	Low Stage Thermal Cutout
72	High Stage Thermal Cutout
73	Contactor Shorted
74	Contactor Open (No 230v to Comp)
81	Low Stage thermal lockout (4 HRS)
82	High Stage thermal lockout (4 HRS)
83	Low pressure lockout (4 HRS)
84	High pressure lockout (4 HRS)

Short flashes indicate the first digit in the status code, followed by long flashes indicating the second digit of the status code.

UNIT OPERATION

This control board contains a five minute short cycle protector. A five minute delay will occur between compressor off/on cycles. To bypass delay, short forced defrost pins for 1 second then release. The crankcase heater is energized during off cycle below 65°F.

- **Defrost time selection** - (shown as DT on board) the defrost interval time can be field selected, dependent upon local georgraphic requirements. It is factory set at 90 minutes and can be changed to either 30, 60 or 120 minutes.
- **Defrost** - defrost will only be performed at outdoor temperatures less than 50°F defrost will initiate when time selected has elapsed and the coil temperature is less than 32°F (+/-2°) And will terminate at 65°F (+/-5°) upon defrost termination the outdoor fan will delay 20 Seconds before starting.
- **Field initiated forced defrost** - (shown as forced defrost on board) by placing a jumper across the forced defrost terminals for 5 seconds, or longer, and then removing the jumper the unit will initate a defrost cycle regardless of coil temperature the defrost cycle will terminate at 65°F (+/-5°) if coil termperature is above 32°F or outdoor ambient temperature is above 50°F, defrost mode will terminate after 30 seconds of active mode.

NOTES:

1. Compressor furnished with inherent thermal protection.
2. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
3. Outdoor unit control requires a minimum of 27 va, 24 vac control power.
4. Use copper conductors only. Use conductors suitable for at least 70ºC (167ºF).
5. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C".
6. If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
7. Check all electrical connections inside control box for tightness.
8. Do not attempt to operate unit until service valves have been opened (Back Seated).
9. **MUST USE THERMOSTAT OR USER INTERFACE LISTED IN PRE-SALE LITERATURE ONLY**.
10. In case of non-communicating indoor system disconnect factory provided wires from A, B, C, and D terminals. Use factory provided wires to connect to R, C, W1, Y1, Y2, and O as required by installation instructions. Cap or remove unused factory provided wires.
11. For communicating control only.

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Fig. 1 – Wiring Diagram — Model sizes 2 - 5 tons, 208/230-1

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