

CONDENSING UNIT & KUCB EVAPORATOR WIRING GUIDE -

SUPPLEMENT TO CONDENSING UNIT INSTALLATION INSTRUCTIONS

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This guideline will assist in the installation and wiring of all KeepRite condensing units used with KUCB evaporators. **All wiring must be sized and conform to the N.E.C. code and must be installed by qualified service personnel.**

AIR DEFROST EVAPORATORS

KCUB series evaporators with optional preassembled TXV, thermostat and liquid line solenoid valves are factory wired as per FIG. "A1".

This wiring diagram is applicable to both 120V and 208-230V single phase power supplies.

When using a 208-230V evap with a TIMECLOCK, located within the condensing unit's control panel, use the field modification shown in FIG. "A2".

When using 120V or 208-230V evaps with a TIMECLOCK that is not located at the condensing unit, use the typical field wiring shown in FIG. "A3".

ELECTRIC DEFROST EVAPORATORS

KUCB series evaporators with optional pre-assembled TXV, thermostat and liquid line solenoid valve are factory wired as per FIG. "ED1"

This diagram is applicable to 208-230V single phase. Depending on the size of the defrost heater loads there are choices on what method to wire these evaporators. The methods shown here are applicable to condensing units that use 208-230V single or three phase compressors.

OPTION 1 - *Without* Electric Defrost Contactor

When defrost heater amperages are low (only requiring 15A Fuse sizes) the power supply to the heaters can be sourced from the timeclock. This eliminates the need for a defrost heater contactor and extra field wiring. Follow the field wiring as shown in FIG. "ED2".

OPTION 2 - *With* Electric Defrost Contactor.

When the defrost heater amperage requires fusing sizes greater than 15A then a defrost heater contactor is required and two extra wires will be required and wired as per FIG. "ED3". Note the required field modifications. (orange jumper removal)

If the manual pumpdown toggle switch feature is required then an extra wire will need to be fed from the condensing unit to the evaporator. (see note on wiring diagram).

OPTION 3 - *Alternate* Timeclock Wiring

If the fan motor or defrost heater amperages require fusing greater than 15A but no greater than 40A resistive or 2 HP total fan motor load the timeclock wiring can be modified to allow both fan motor loads and defrost heater loads to be sourced through the clock. This eliminates the need for fan contactors or defrost contactors and extra field wiring. Refer to FIG. "ED4".

Option 3 could also be used if the condensing unit power supply is 460/3/60, 575/3/60 or 380-400/3/50 Hz and the evaporator is 208-230V single phase.

Refer to FIG. "KUCB1" for evaporator electrical specifications.

FIG. A2 - KUCB CONDENSING UNIT / AIR DEFROST EVAP WIRING

WIRING DIAGRAM (AIR DEFROST)

208-230/1/60 & 200-220/1/50
 - 1/2 TO 1-1/2 HP "KS, KH, ES, & EH," OR 1/2 TO 2 HP, "RP & RPH"
 CONDENSING UNITS WITH 208-230/1/60 OR 200-220/1/50 "BA", "KUCB"
 AND "TLP" AIR DEFROST UNIT COOLERS

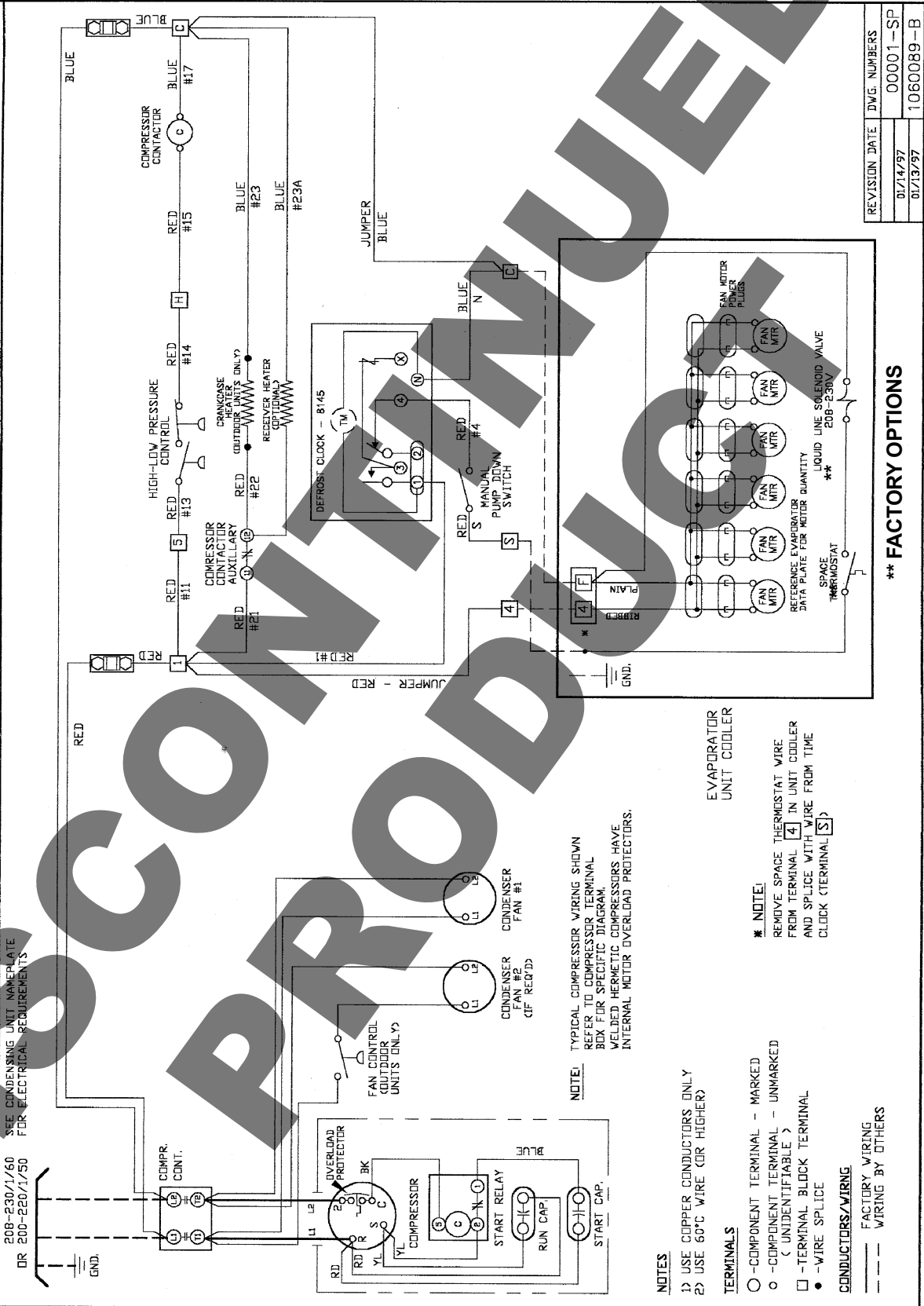
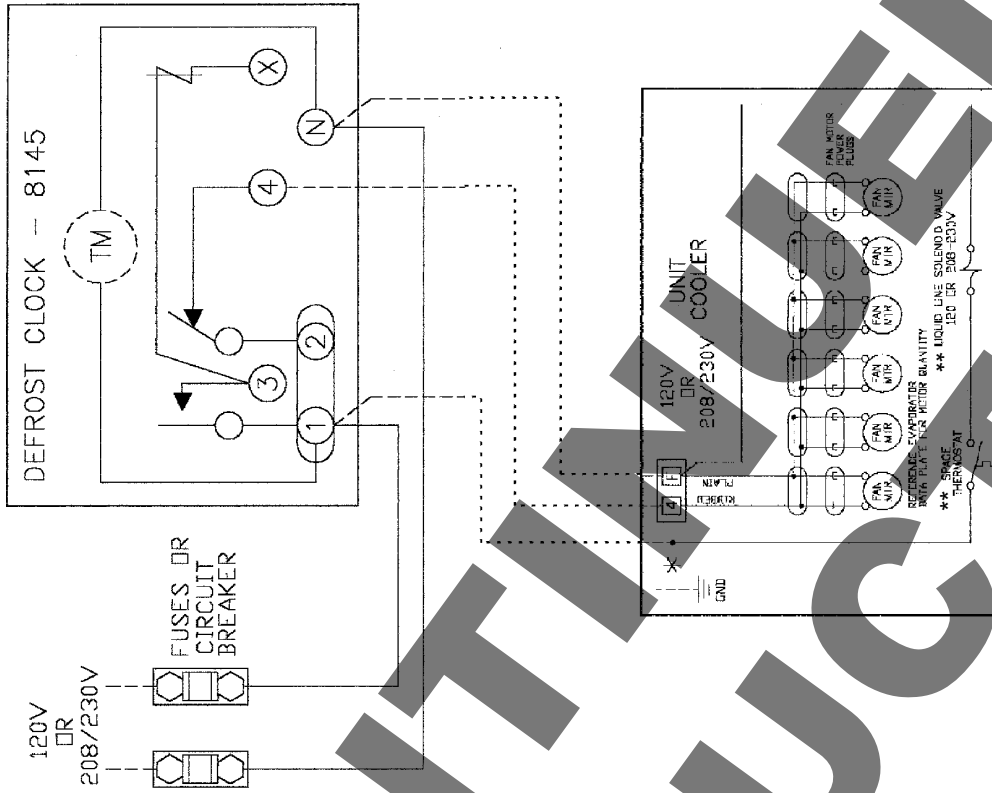


FIG. A3 - REMOTE TIME CLOCK WIRING - AIR DEFROST

8145 SERIES

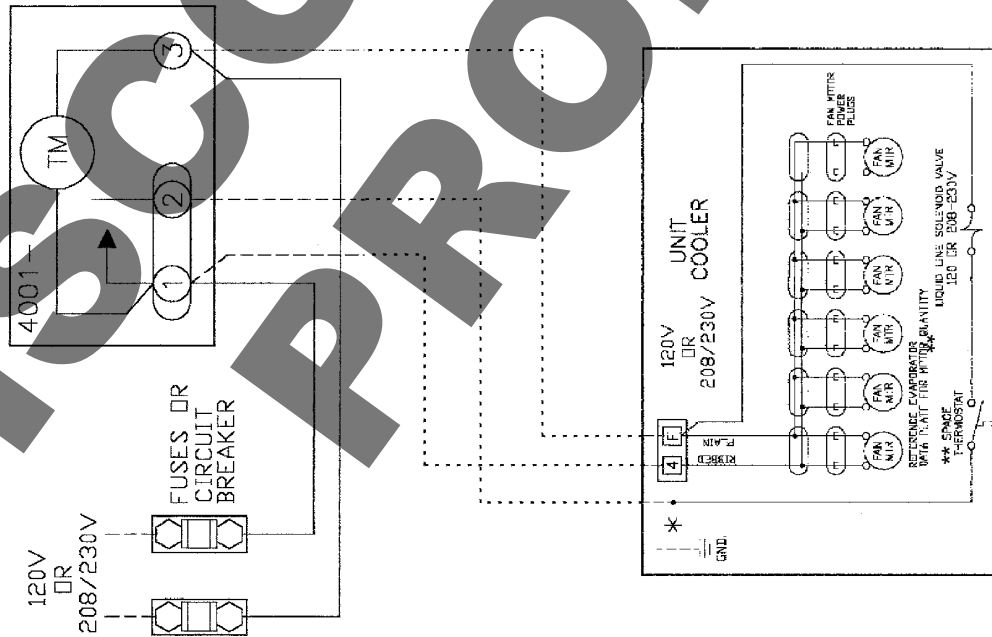
120V/60Hz - Part # 1049792
208-230V/60Hz - Part # 1044601



*** NOTE**
Remove space thermostat wire from terminal 4 in unit cooler and splice with wire from time clock terminal 4.
** Factory Option

4001 SERIES

120V/60Hz - Part # 1047331
208-230V/60Hz - TBA



*** NOTE**
Remove space thermostat wire from terminal 4 in unit cooler and splice with wire from time clock terminal 2.
** Factory Option

FIG. ED2 - CONDENSING UNIT / ELECTRIC DEFROST EVAP WIRING

(Without Defrost Contactor)

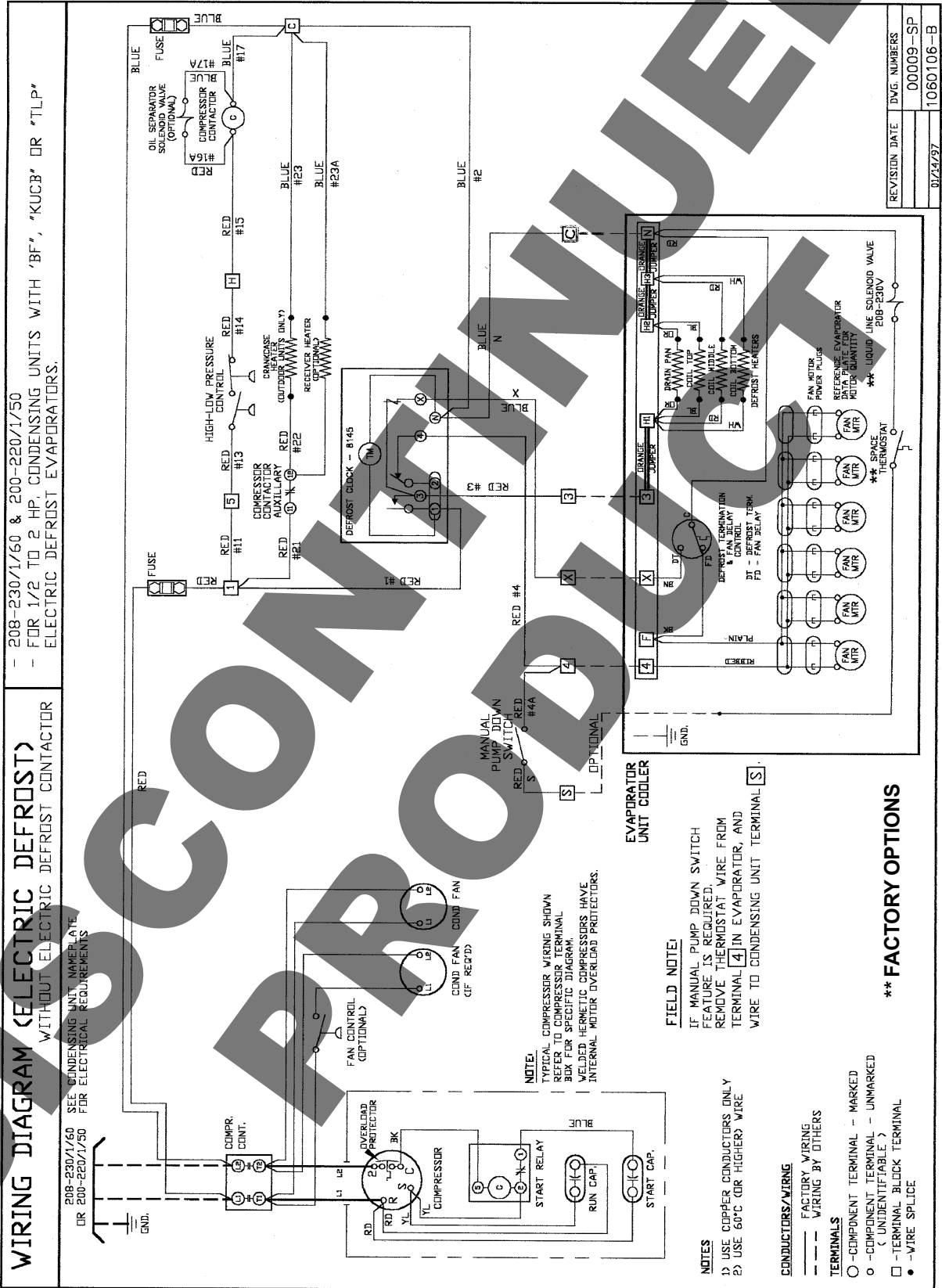
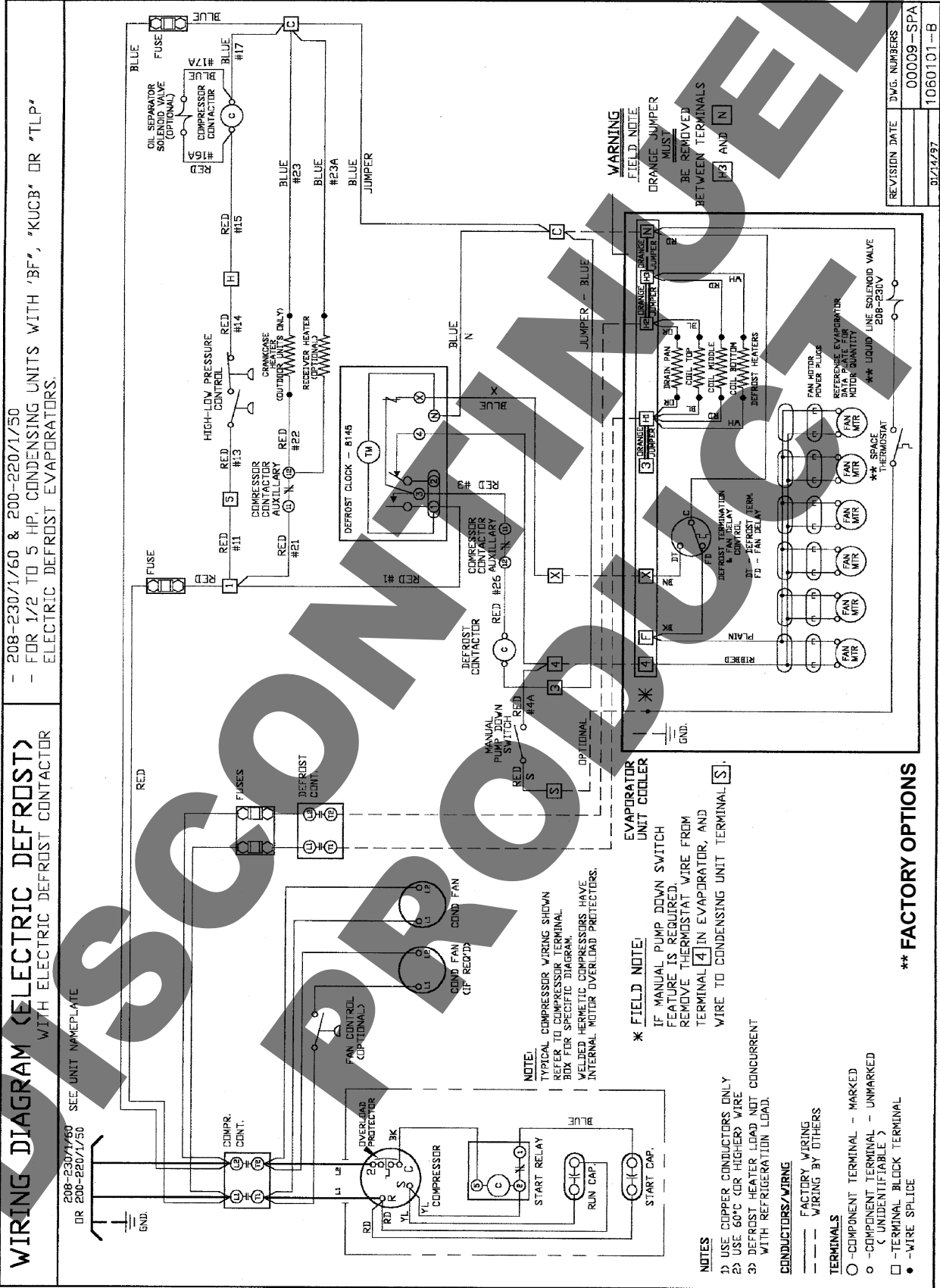


FIG. ED3 - CONDENSING UNIT / ELECTRIC DEFROST EVAP WIRING (With Defrost Contactor)



- 208-230/1760 & 200-220/1150
 - FOR 1/2 TO 5 HP, CONDENSING UNITS WITH 'BF', 'KUCB' OR 'TLP'
 ELECTRIC DEFROST EVAPORATORS.

WIRING DIAGRAM (ELECTRIC DEFROST)
 WITH ELECTRIC DEFROST CONTACTOR
 SEE UNIT NAMEPLATE
 DR 200-220/150

NOTES:
 1) USE COPPER CONDUCTORS ONLY
 2) USE 60°C (OR HIGHER) WIRE
 3) DEFROST HEATER LOAD NOT CONCURRENT WITH REFRIGERATION LOAD.

CONDUCTORS/WIRING:
 --- FACTORY WIRING
 - - - WIRING BY OTHERS

TERMINALS:
 ○ - COMPONENT TERMINAL - MARKED
 ◊ - COMPONENT TERMINAL - UNMARKED
 □ - IDENTIFIABLE
 ⊞ - TERMINAL BLOCK TERMINAL
 • - WIRE SPLICE

*** FIELD NOTE:**
 IF MANUAL PUMP DOWN SWITCH FEATURE IS REQUIRED, REMOVE THERMOSTAT WIRE FROM TERMINAL [4] IN EVAPORATOR, AND WIRE TO CONDENSING UNIT TERMINAL [S].

NOTE:
 TYPICAL COMPRESSOR WIRING SHOWN REFER TO COMPRESSOR TERMINAL BOX FOR SPECIFIC DIAGRAM.
 WELDED HERMETIC COMPRESSORS HAVE INTERNAL MOTOR OVERLOAD PROTECTORS.

WARNING FIELD NOTE:
 ORANGE JUMPER MUST BE REMOVED BETWEEN TERMINALS [R3] AND [N]

**** FACTORY OPTIONS**

REVISION DATE	DWG. NUMBERS
01/21/97	00009-SFA
	1060101-B

FIG. ED4 - ALTERNATE TIMECLOCK WIRING (Electric Defrost)

200-220/1/50 OR 208-230/1/60 SEE EVAPORATOR UNIT COOLER NAMEPLATE FOR ELECTRICAL REQUIREMENTS

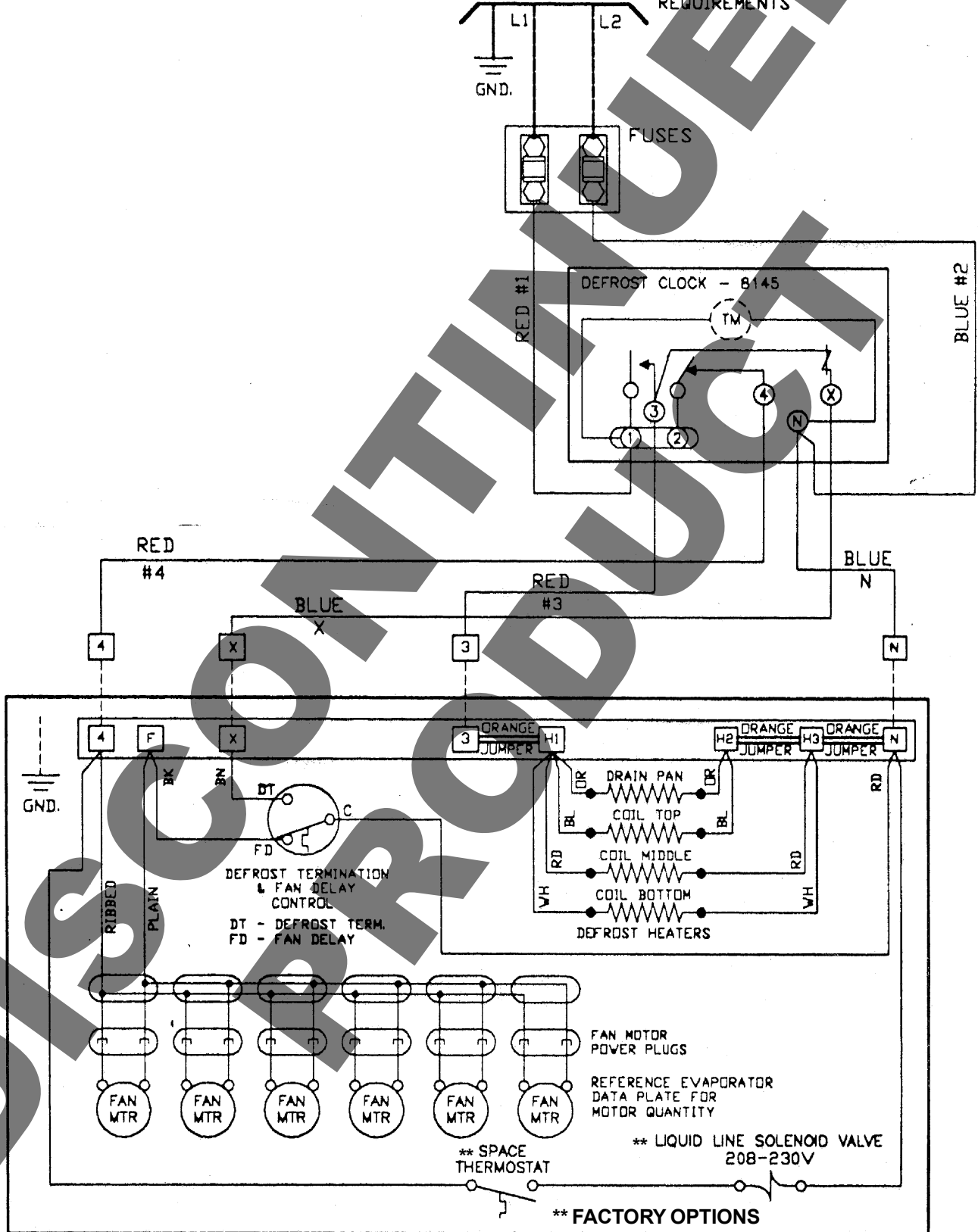


FIG. KUCB1 - ELECTRICAL SPECIFICATIONS FOR 120V AND 208-230V SINGLE PHASE

FAN MOTORS

MODEL	No. OF FANS	115/1/60			208-230/1/60 220/150		
		TOTAL F.L.A.	MINIMUM CIRCUIT AMPACITY	MAXIMUM OVERCURRENT PROTECTION AMPS	TOTAL F.L.A.	MINIMUM CIRCUIT AMPACITY	MAXIMUM OVERCURRENT PROTECTION AMPS
KUCB 41, 51	1	2.1	2.6	15	1.0	1.3	15
KUCB 62, 82, 102	2	4.2	4.7	15	2.0	2.3	15
KUCB 123, 153	3	6.3	6.8	15	3.0	3.3	15
KUCB 204	4	8.4	8.9	15	4.0	4.3	15
KUCB 255	5	10.5	11.0	15	5.0	5.3	15
KUCB 306	6	12.6	13.1	15	6.0	6.3	15

DEFROST HEATERS

MODEL	No. OF FANS	TOTAL HEATER WATTS (230V)	208-230/1/60 220/1/50		MAX. OVERCURRENT PROTECTION AMPS
			HEATER AMPS (230V)	MIN. CIRCUIT AMPACITY	
KUCB 41, 51	1	1310	5.7	7.1	15
KUCB 62, 82, 102	2	2400	10.4	13.1	15
KUCB 123, 153	3	3550	15.4	19.3	25
KUCB 204	4	4580	19.9	24.9	30
KUCB 255	5	5670	24.7	30.8	35
KUCB 306	6	6760	29.4	36.7	40

**For further technical support consult your local
KeepRite Refrigeration sales representative or call the factory
at 1-800-463-9517**



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