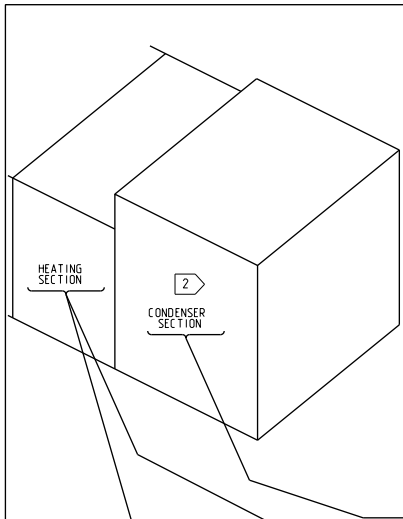




| DANFOSS VARIABLE FREQUENCY DRIVE PROGRAMMING PARAMETERS |           |                                    |                                                            |
|---------------------------------------------------------|-----------|------------------------------------|------------------------------------------------------------|
| MENU                                                    | PARAMETER | DESCRIPTION                        | SETTING                                                    |
| LOAD MOTOR                                              | 102       | MOTOR POWER                        | SET ONLY FOR APPLICATIONS USING 3HP HIGH EFFICIENCY MOTORS |
|                                                         | 103       | MOTOR VOLTAGE                      | SET ONLY FOR 200/230V 60HZ 200/415 50HZ APPLICATIONS       |
|                                                         | 105       | MOTOR CURRENT                      | SET BASED ON MOTOR NAMEPLATE                               |
|                                                         | 106       | RATED MOTOR SPEED                  | 1800                                                       |
|                                                         | 114       | DC BREAKING CURRENT                | 0%                                                         |
| REFERENCE LIMITS                                        | 201       | OUTPUT FREQUENCY LOW LIMIT         | 22HZ                                                       |
|                                                         | 206       | RAMP UP TIME                       | 30 SECONDS                                                 |
|                                                         | 207       | RAMP UP TIME                       | 30 SECONDS                                                 |
|                                                         | 215       | CURRENT LIMIT                      | 1 X RATED CURRENT                                          |
| INPUTS/OUTPUTS                                          | 308       | ANALOG INPUT VOLTAGE               | REFERENCE                                                  |
|                                                         | 323       | RELAY 1 OUTPUT FUNCTION            | NO ALARM                                                   |
|                                                         | 326       | RELAY 2 OUTPUT FUNCTION            | RUNNING                                                    |
| APPLICATION FUNCTIONS                                   | 400       | RESET FUNCTION                     | AUTOMATIC RESET X 3                                        |
|                                                         | 402       | FLYING START                       | ENABLED                                                    |
|                                                         | 407       | SWITCHING FREQUENCY                | 4.5KHZ                                                     |
|                                                         | 408       | ASFM                               | ENABLED                                                    |
|                                                         | 410       | FUNCTION AT INPUT PHASE LOSS       | AUTODERATE & WARNING                                       |
|                                                         | 411       | FUNCTION AT DRIVE OVER TEMPERATURE | AUTODERATE & WARNING                                       |

| FUSE REPLACEMENT TABLE                                |                 |                |                              |           |           |           |           |       |       |       |       |       |
|-------------------------------------------------------|-----------------|----------------|------------------------------|-----------|-----------|-----------|-----------|-------|-------|-------|-------|-------|
| CONDENSER FAN FUSE<br>1F1 THRU 1F6 CLASS RK5          | UNIT VOLTAGE    | 200            | 230                          | 380       | 415       | 460       | 575       |       |       |       |       |       |
|                                                       | TIME DELAY      | 25A            | 25A                          | 15A       | 15A       | 15A       | 15A       |       |       |       |       |       |
| CONTROL POWER FUSE                                    |                 |                |                              |           |           |           |           |       |       |       |       |       |
| CONTROL (1T1) TRANSFORMER RATING<br><br>1F7<br>TYPE S | 0.25 KVA        | 0.30 KVA       | 0.50 KVA                     | 0.75 KVA  | 1.00 KVA  | 1.50 KVA  |           |       |       |       |       |       |
|                                                       | 20-30 TON       | 6.25A          | 6.25A                        | --        | 10A       | --        | --        |       |       |       |       |       |
|                                                       | 40 TON          | 15A            | 20A                          | --        | 20A       | --        | --        |       |       |       |       |       |
|                                                       | 50-60 TON       | --             | --                           | 15A       | --        | 20A       | --        |       |       |       |       |       |
|                                                       | 70-130 TON      | --             | --                           | --        | --        | 15A       | 20A       |       |       |       |       |       |
| ELECTRIC HEAT FUSE                                    |                 |                | 4F19 THRU 4F36, 4F46, 47, 48 |           | CLASS K5  |           | 60A       |       |       |       |       |       |
| COMPRESSOR PROTECTION FUSE                            |                 |                | 1F44 & 1F45                  |           | TYPE MTH  |           | 6A        |       |       |       |       |       |
| TRANSFORMER CIRCUIT FUSE                              |                 |                | 1F72 THRU 1F74               |           | TYPE FLQ  |           | 15A       |       |       |       |       |       |
| STANDARD MOTORS                                       |                 |                |                              |           |           |           |           |       |       |       |       |       |
| OPTIONAL SUPPLY FAN<br>CIRCUIT FUSES                  | UNIT<br>VOLTAGE | FUSE<br>RATING | 1.5 HP                       | 3 HP      | 5 HP      | 7.5 HP    | 10 HP     | 15 HP | 20 HP | 25 HP | 30 HP | 40 HP |
|                                                       | 200V/60/3       | 600V           | 15A                          | 35A       | 45A       | 70A       | 100A      | 150A  | 175A  | 225A  | 225A  | 400A  |
| 20 THRU 75 TON<br>1F57-1F59                           | 230V/60/3       | 600V           | 15A                          | 25A       | 45A       | 70A       | 80A       | 125A  | 150A  | 200A  | 225A  | 350A  |
|                                                       | 380V/50/3       | 600V           | 10A                          | 15A       | 30A       | 50A       | 60A       | 90A   | 110A  | 125A  | 125A  | N/A   |
| 90 THRU 130 TON<br>1F57-1F62                          | 415V/50/3       | 600V           | 10A                          | 15A       | 30A       | 45A       | 50A       | 90A   | 100A  | 125A  | 125A  | N/A   |
|                                                       | 460V/60/3       | 600V           | 10A                          | 15A       | 25A       | 35A       | 40A       | 70A   | 80A   | 100A  | 125A  | 175A  |
| -----                                                 | 575V/60/3       | 600V           | 10A                          | 15A       | 15A       | 25A       | 30A       | 40A   | 50A   | 60A   | 90A   | 100A  |
| HIGH EFFICIENCY MOTORS                                |                 |                |                              |           |           |           |           |       |       |       |       |       |
| OPTIONAL EXHAUST/RETURN FAN<br>CIRCUIT FUSES          | UNIT<br>VOLTAGE | FUSE<br>RATING | 1.5 HP                       | 3 HP      | 5 HP      | 7.5 HP    | 10 HP     | 15 HP | 20 HP | 25 HP | 30 HP | 40 HP |
|                                                       | 200V/60/3       | 600V           | N/A                          | 40A       | 45A       | 80A       | 100A      | 125A  | 175A  | 225A  | 225A  | 350A  |
| 20 THRU 130 TON<br>1F63-1F65                          | 230V/60/3       | 600V           | N/A                          | 25A       | 45A       | 60A       | 90A       | 125A  | 150A  | 175A  | 225A  | 300A  |
|                                                       | 460V/60/3       | 600V           | N/A                          | 15A       | 25A       | 35A       | 45A       | 60A   | 90A   | 110A  | 125A  | 150A  |
| (CLASS "T" FUSES)                                     | 575V/60/3       | 600V           | 10A                          | 15A       | 15A       | 25A       | 30A       | 40A   | 50A   | 60A   | 90A   | 100A  |
| OPTIONAL CONVENIENCE OUTLET FUSE                      |                 | 200V/60/3      | 230V/60/3                    | 380V/50/3 | 415V/50/3 | 460V/60/3 | 575V/60/3 |       |       |       |       |       |
| 1F55 AND 1F56 (TIME DELAY TYPE FUSE)                  |                 | 12A            | 10A                          | N/A       | N/A       | 5A        | 4A        |       |       |       |       |       |

| CUSTOMER CONNECTION WIRE RANGE                      |           |                      |                                                        |            |                                  |
|-----------------------------------------------------|-----------|----------------------|--------------------------------------------------------|------------|----------------------------------|
| UNITS WITH MAIN POWER TERMINAL BLOCK (ALL VOLTAGES) |           |                      | UNITS WITH MAIN POWER DISCONNECT SWITCH (ALL VOLTAGES) |            |                                  |
| BLOCK SIZE                                          | WIRE QTY. | CONNECTOR WIRE RANGE | DISCONNECT SIZE                                        | WIRE QTY.  | CONNECTOR WIRE RANGE             |
| 335 AMP                                             | (1)       | #6 - 350 MCM         | 100 AMP                                                | (1)        | #14 - 1/0                        |
| 760 AMP                                             | (2)       | #4 - 500 MCM         | 250 AMP                                                | (1)        | #4 - 350 kcmil                   |
| 840 AMP                                             | (2)       | #2 - 600 MCM         | 400 AMP                                                | (1) OR (2) | #1 - 600 kcmil OR #1 - 250 kcmil |
|                                                     |           |                      | 600 AMP                                                | (2)        | 250-500 MCM                      |
|                                                     |           |                      | 1000 AMP                                               | (3)        | 3/0 - 500 kcmil                  |

NOTES  
A. BLOCK SIZE & DISCONNECT SIZE ARE CALCULATED BY SELECTING THE SIZE GREATER THAN OR EQUAL TO 1.25 X (SUM OF UNIT LOADS). SEE UNIT LITERATURE FOR UNIT LOAD VALUES.

## WARNING

HAZARDOUS VOLTAGE!  
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.  
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

## AVERTISSEMENT

VOLTAGE HASARDEUX!  
DECONNECTEZ TOUTES LES SOURCES ELECTRIQUES INCLUANT LES DISJONCTEURS SITUES A DISTANCE AVANT D'EFFECTUER L'ENTRETIEN.  
FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN PEUT ENTRAÎNER DES BLESSURES CORPORELLES SEVERES OU LA MORT.

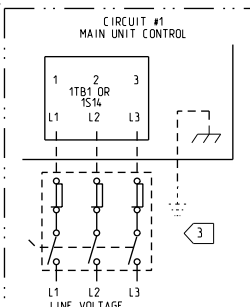
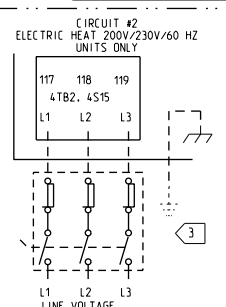
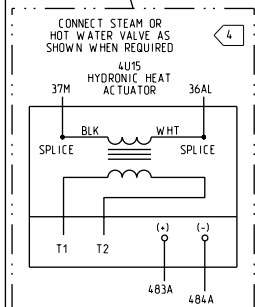
## CAUTION

USE COPPER CONDUCTORS ONLY!  
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.  
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

|                                                                                                                                |  |                                  |                              |                                                  |          |
|--------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------|------------------------------|--------------------------------------------------|----------|
| TRANE                                                                                                                          |  | FILE NUMBER:<br>2309-3355        | DRAWING NUMBER:<br>2309-3357 | SHEET:<br>1 OF 1                                 | REV<br>B |
| THIS DRAWING IS PROPRIETARY AND SHALL NOT BE COPIED OR ITS CONTENTS DISCLOSED TO OUTSIDE PARTIES WITHOUT THE CONSENT OF TRANE. |  | ROOFTOP PACKAGED AIR CONDITIONER |                              |                                                  |          |
| DRAWN BY:<br>T.DEPRIEST                                                                                                        |  | TRANE® DATE:<br>08/04/03         |                              | FIELD WIRING DIAGRAM                             |          |
| REPLACES:                                                                                                                      |  | REVISION DATE:<br>22-Oct-08      |                              | EXTERNAL FIELD MOUNTED DEVICES - AREA 5          |          |
| CAD SYSTEM USED:<br>Pro/DETAIL                                                                                                 |  | SIMILAR TO:<br>2307-5694         |                              | 20-130 TON S.H.F. & S.H.G<br>VARIABLE AIR VOLUME |          |

### NOTES:

- ALL WIRING AND COMPONENTS SHOWN DASHED TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER IN ACCORDANCE WITH LOCAL ELECTRICAL CODES.
- CUSTOMER CONNECTIONS - MAIN UNIT CONTROL (CIRCUIT #1) - ARE LOCATED IN THE CONDENSER SECTION FOR 20 THRU 75 TON UNITS. CUSTOMER CONNECTIONS FOR 90 THRU 130 TON UNITS ARE LOCATED IN THE HEATING SECTION.
- SEE CUSTOMER CONNECTION WIRE RANGE TABLE FOR ACCEPTABLE WIRE SIZES FOR CONNECTION TO MAIN UNIT TERMINAL BLOCK (1TB1/4TB2) OR DISCONNECT SWITCH (1S14/4S15).
- WIRES TO THE OPTIONAL STEAM AND/OR HOT WATER HEAT VALVE ARE SUPPLIED WITH THE UNIT. WIRE CONNECTIONS TO THE VALVE TO BE MADE BY THE CUSTOMER.
- OPTIONAL S5U7 REMOTE ZONE TEMP SENSOR IS USED FOR UNOCCUPIED HEAT/COOL TEMP CONTROL SENSING.
- WHEN S5U69 REMOTE ZONE TEMP SENSOR IS USED, REMOVE S508 INTEGRAL ZONE TEMP SENSOR ATTACHED TO TERMINALS S1 AND S2.
- WIRES USE SHIELDED TWISTED PAIR WIRE.
- USE SHIELDED TWISTED PAIR WIRE. WRAP SHIELDS WITH TAPE TO PREVENT CONTACT WITH GROUND.
- REMOVE JUMPER (1TB4-15 & 1TB4-16) AND INSTALL HIGH DUCT TEMP T-STAT /OR FIELD SUPPLIED DEVICE.
- REMOVE JUMPER (1TB4-17 & 1TB4-18) WHEN FIELD SUPPLIED EXTERNAL AUTO/STOP SWITCH (S567) IS INSTALLED.
- CHANGEOVER (SK87) AVAILABLE ONLY ON HYDRONIC HEAT UNITS OR MODULATING GAS HEAT UNITS.
- ALARM OUTPUT SWITCHES ON ANY MANUAL RESET DIAGNOSTIC.
- OPTIONAL HEAT MODULE AUX. TEMP (SRT16) IS USED FOR MORNING WARM-UP CONTROL ON UNITS WITH HEATING OPTION.
- TERMINAL BLOCK 1TB17 AND ASSOCIATED WIRING REQUIRED WITH GBAS (U51) OPTION. DEMAND LIMIT RELAY (SK89) TO BE PROVIDED BY CUSTOMER.
- VENTILATION OVERRIDE MODE CONTACTS RATED 12MA @ 24VDC MINIMUM (SK90 - SK91 - SK92 - SK93 - SK94) TO BE PROVIDED BY CUSTOMER.
- WIRE NODES S33 & S34 REQUIRED WITH BAS/NETWORK COMM MODULE (U54) OPTION. USE SHIELDED TWISTED PAIR WIRE.
- FIELD CONNECTIONS TO DRIVE VAV BOXES FULL OPEN DURING NIGHT SETBACK MODE.
- 15A FUSE REPLACEMENT IS REQUIRED FOR 50 THRU 60 TON - 0.50 KVA TRANSFORMER WITH 200V - 230V - 460V OR 575V UNIT VOLTAGE. 20A FUSE REPLACEMENT IS REQUIRED FOR 50 THRU 60 TON - 0.50 KVA TRANSFORMER WITH 380V OR 415V UNIT VOLTAGE.
- CONTACTS RATED 12 MA @ 24VDC MINIMUM.
- CONNECT TO 24VAC CLASS 2 CIRCUITS ONLY.
- REMOVE JUMPER WHEN OPTIONAL FIELD SUPPLIED OUTSIDE AIR SENSOR (3RT3) IS INSTALLED AND THE UNIT DOES NOT HAVE ECONOMIZER.
- FIELD SUPPLIED AND INSTALLED OCCUPIED/UNOCCUPIED CONTACTS (SK86) FOR USE ON UNITS WITHOUT REMOTE PANEL WITH NIGHT SETBACK (S508).
- GBAS 0-5V OPTION CONNECTIONS.
- GBAS 0-10V OPTION CONNECTIONS.
- FOR GBAS INPUTS A11-A14, "GBAS 0-5V" REQUIRES 0-5V VDC AND "GBAS 0-10V" REQUIRES 0-10VDC.
- "ACTIVE DIAGNOSTICS (B05)" APPEARS WITH BOTH "GBAS 0-5V" AND "GBAS 0-10V".



| DEVICE PREFIX LOCATION CODE |                               |
|-----------------------------|-------------------------------|
| AREA                        | LOCATION                      |
| 1                           | INSIDE UNIT CONTROL BOX       |
| 2                           | CONDENSER SECTION             |
| 3                           | AIR HANDLER SECTION           |
| 4                           | HEATING SECTION               |
| 5                           | EXTERNAL FIELD MOUNTED DEVICE |

**IMPORTANT!**  
DO NOT ENERGIZE UNIT UNTIL CHECK-OUT AND START-UP PROCEDURE HAS BEEN COMPLETED.

