DRAWN BY:	T. GRUBE
© TRANE DATE:	10-FEB-2022
MASTER FILE:	
REVISION DATE:	10-FEB-2022
REPLACES:	
SIMILAR TO:	
USED BY:	

CAD: CREO SCHEMATICS

57229573

SHEET 1

REV A

FIELD WIRING DIAGRAM RTAF

⚠WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND FOLLOW LOCK OUT AND TAG PROCEDURES BEFORE SERVICING. INSURE THAT ALL MOTOR CAPACITORS HAVE DISCHARGED STORED VOLTAGE. UNITS WITH VARIABLE SPEED DRIVE, REFER TO DRIVE INSTRUCTIONS FOR CAPACITOR DISCHARGE.

FAILURE TO DO THE ABOVE COULD RESULT IN DEATH OR SERIOUS INJURY.

⚠AVERTISSEMENT

TENSION DANGEREUSE!

COUPER TOUTES LES TENSIONS ET OUVRIR LES SECTIONNEURS À DISTANCE, PUIS SUIVRE LES PROCÉDURES DE VERROUILLAGE ET DES ÉTIQUETTES AVANT TOUTE INTERVENTION. VÉRIFIER QUE TOUS LES CONDENSATEURS DES MOTEURS SONT DÉCHARGÉS. DANS LE CAS D'UNITÉS COMPORTANT DES ENTRAÎNEMENTS À VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAÎNEMENT POUR DÉCHARGER LES CONDENSATEURS.

UN MANQUEMENT À LA PROCÉDURE CI-DESSUS PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE LA MORT.

⚠ADVERTENCIA

¡VOLTAJE PELIGROSO!

DESCONECTE TODA LA ENERGÍA ELÉCTRICA, INCLUSO LAS DESCONEXIONES REMOTAS Y SIGA LOS PROCEDIMIENTOS DE CIERRE Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGÚRESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON TRANSMISIÓN DE VELOCIDAD VARIABLE, CONSULTE LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR.

NO REALIZAR LO ANTEDICHO PUEDE PROVOCAR LA MUERTE O LESIONES GRAVES.

DEVICE PREFIX LOCATION CODE	
AREA	LOCATION
1	CONTROL PANEL
2	NOT USED
3	CIRCUIT 1
4	CIRCUIT 2
5	CUSTOMER INSTALLED
6	UNIT WIRING

CONTROLS SECTION

CLASS 2 WIRING

18 — 5K3 — 1K22 J2 (1–4): (OPTIONAL) ICE MAKING CONTROL, DUAL LOW VOLTAGE BINARY INPUT

15 — 2-10 VDC CAPACITY — 1K24 J2 (1–6): (OPTIONAL) PERCENT CAPACITY & CHILLED WATER SETPOINT, DUAL ANALOG I/0

13 EXTERNAL CHILLED WATER SETPOINT

14 EXTERNAL DEMAND LIMIT SETPOINT — 1K24 J2 (1–6): (OPTIONAL) PERCENT CAPACITY & CHILLED WATER SETPOINT, DUAL ANALOG I/O

18 — 5K2 — 1K25 J2 (1–4): (OPTIONAL) CHILLED WATER SETPOINT SETPOINT ENABLE, DUAL LOW VOLTAGE BINARY INPUT

18 — 5K1, 5S1 — W1, W2 — 1K26 J2 (1–4): 19 — LOCKOUT EXTERNAL STOP & EMERGENCY STOP, DUAL LOW VOLTAGE BINARY INPUT

SHIELDED TWISTED PAIR LEADS

TO MOD BUS OR BACNET INTERFFACE

8 10 TO NEXT UNIT — 1K1 P1 LINK (+ - + -): SYMBIO 800

SHIELDED TWISTED PAIR LEADS

TO TRACER OR OTHER TRANE REMOTE DEVICE — 1K2: (OPTIONAL) LON/FT NETWORK

CLASS 1 WIRING

115/60/1 OR 230/50/1 9

5Q10 — AUTO / OFF / ON — 1K16 J2 (1–6): 17, 21 — WATER PUMP RELAYS, DUAL RELAY OUTPUT

5K22, 5K23, 5K24, 5K25, 5K26, 5K27, 5K28, 5K29 — 1K23 J2 (1–12): UNIT STATUS, PROGRAMMABLE RELAY, QUAD RELAY OUTPUT

POWER SECTION

POWER CONNECTION	SELECTOIN CRITERIA	CUSTOMER LUG SIZE
TERMINAL BLOCK	ALL	(2) 500 MCM - #4
CIRCUIT BREAKER	MCA = 300 - 600	(2) 500 MCM - 2/0
	MCA = 700 - 800	(3) 500 MCM - 3/0

1Q1 CIRCUIT BREAKER OR 1X2 TERMINAL BLOCK — L1, L2, L3 — 4, 11

1X6: 1 EVAP HEATERS; 2, 3 CONVENIENCE OUTLET (OPTIONAL); 4, 5

POWER HOOD

N, H — 115V/60/1 — 6

N, H — 115V/60/1 OR 230V/50/1 — 22 — 4, 11

DRAWN BY:	T. GRUBE
© TRANE DATE:	10-FEB-2022
MASTER FILE:	
REVISION DATE:	10-FEB-2022
REPLACES:	
SIMILAR TO:	
USED BY:	

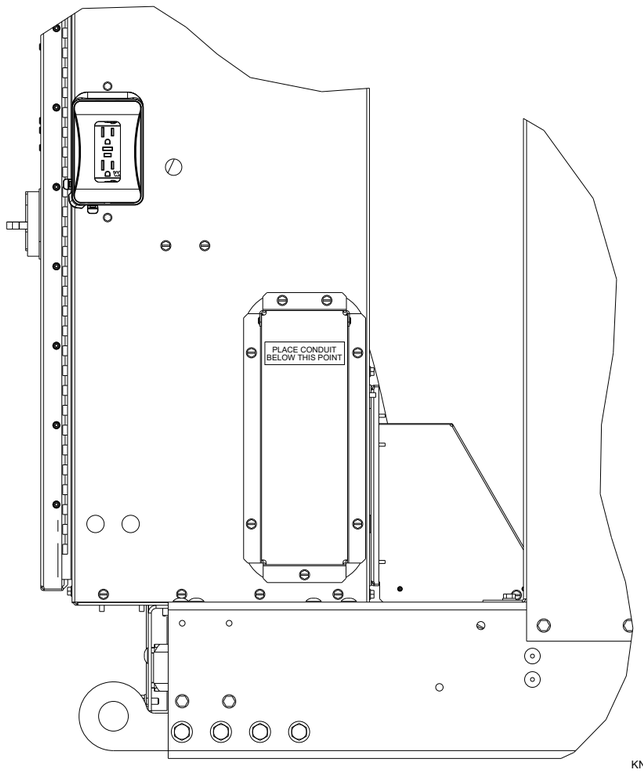
CAD: CREO SCHEMATICS

57229573

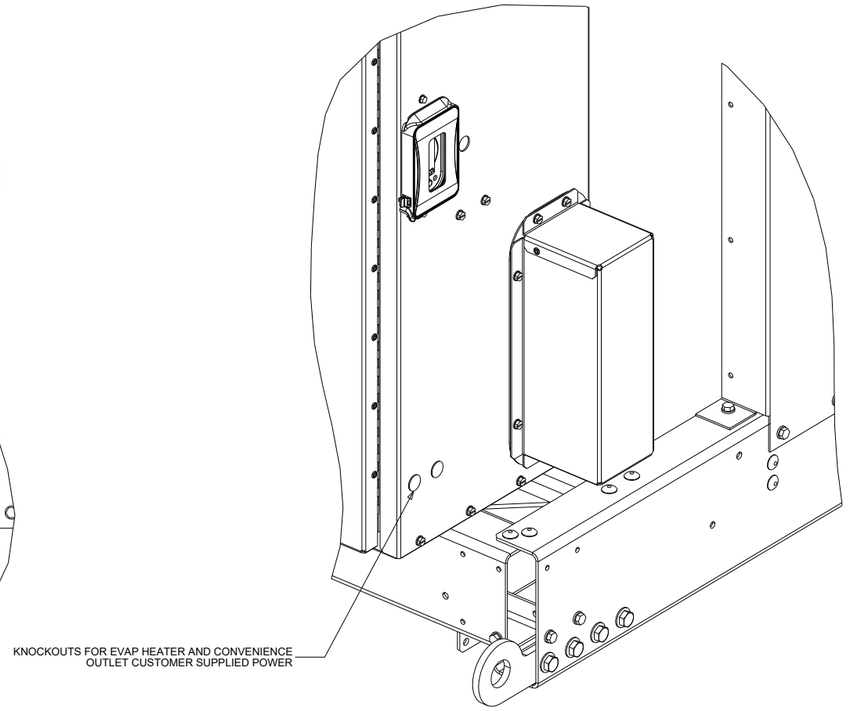
SHEET 2

REV A

FIELD WIRING DIAGRAM RTAF



PANEL SIDE VIEW



PANEL ISO VIEW

GENERAL NOTES

1. CAUTION-DO NOT ENERGIZE THE UNIT UNTIL CHECK OUT AND STARTUP PROCEDURES HAVE BEEN COMPLETED.
2. ALL MOTORS ARE PROTECTED FROM PRIMARY SINGLE PHASE FAILURES.
3. CAUTION-TRANE PUMP CONTROL MUST BE USED TO PROVIDE PUMP CONTROL. EVAPORATOR CHILLED WATER PUMP MUST BE CONTROLLED BY THE CHILLER OUTPUT. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN DAMAGE OT THE UNIT.

<4> SINGLE SOURCE POWER IS PROVIDED AS STANDARD ON THESE PRODUCTS, FIELD CONNECTIONS ARE MADE TO 1Q1 OR 1X2.

WIRING REQUIREMENTS

5. RECOMMENDED FIELD WIRING CONNECTIONS ARE SHOWN BY DOTTED LINES

<6> POWER FOR THE EVAPORATOR HEATER AND/OR OPTIONAL CONVENIENCE OUTLET IS SUPPLIED BY A CUSTOMER PROVIDED POWER SUPPLY.
MAX FUSE SIZE FOR 115 TO 180T UNITS IS 20A WHEN HEATER POWER DRAW IS 1640VA.
MAX FUSE SIZE FOR 200 TO 270T UNITS IS 25A WHEN HEATER POWER DRAW IS 2040VA.
MAX FUSE SIZE FOR THE OPTIONAL CONVENIENCE OUTLET IS 25 AMPS.

7. DO NOT RUN LOW VOLTAGE CONTROL WIRING (30 VOLTS OR LESS) IN CONDUIT WITH 110 VOLT OR HIGHER WIRING. DO NOT EXCEED THE FOLLOWING MAXIMUN RUN LENGTHS FOR A GIVEN SIZE: 14 AWG, 5000 FT; 16 AWG, 2000 FT; 18 AWG, 1000FT.

<8> SHIELDED TWISTED PAIR LEADS ARE REQUIRED FOR CONNECTIONS TO THE COMMUNICATIONS INTERFACE MODULE (1K1 AND 1K2). THE SHIELD SHOULD BE GROUNDED AT THE RTAF CONTROL PANEL END.

<9> CUSTOMER SUPPLIED POWER 115/60/1PH OR 220/50/1PH TO POWER RELAYS. MAX. FUSE SIZE IS 20 AMPS. GROUND ALL CUSTOMER SUPPLIED POWER SUPPLIES AS REQUIRED BY APPLICABLE CODES. GREEN GROUND SCREWS ARE PROVIDED IN UNIT CONTROL PANEL.

<10> WIRED TO NEXT UNIT. 22 AWG SHIELDED COMMUNICATION WIRE EQUIVALENT TO HELIX LF22P0014216 RECOMMENDED. THE SUM TOTAL OF ALL INTERCONNECTED CABLE SEGMENTS NOT TO EXCEED 4500 FEET. CONNECTION TOPOLOGY SHOULD BE DAISY CHAIN. REFER TO BUILDING AUTOMATION SYSTEM (BAS) COMMUNICATION INSTALLATION LITERATURE FOR END OF LINE TERMINATION RESISTOR REQUIREMENTS.

<11> ALL UNIT POWER WIRING MUST BE 600 VOLT COPPER CONDUCTORS ONLY AND HAVE A MINIMUM TEMPERATURE INSULATION RATING OF 90 DEGREE C. REFER TO UNIT NAMEPLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION DEVICE. PROVIDE AN EQUIPMENT GROUND IN ACCORDANCE WITH APPLICABLE ELECTRIC CODES. REFER TO WIRERANGE TABLE FOR LUG SIZES.

12. ALL FIELD WIRING MUST BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE AND LOCAL REQUIREMENTS.

<13> CONTACT RATINGS AND REQUIREMENTS

<14> WIRED TO CUSTOMER CHILLED WATER SET POINT 2-10 VDC OR 4-20 mA.

<15> WIRED TO CUSTOMER CURRENT LIMIT SET POINT 2-10 VDC.

WIRED TO CUSTOMER COMPRESSOR % RLA OUTPUT 2-10 VDC.

16. ALL CUSTOMER CONTROL CIRCUIT WIRING MUST BE COPPER CONDUCTORS ONLY AND HAVE A MINIMUM INSULATION RATING OF 300 VOLTS. EXCEPT AS NOTED, ALL CUSTOMER WIRING CONNECTIONS ARE MADE TO CIRCUIT BOARD MOUNTED BOX LUGS WITH A WIRE RANGE OF 14 TO 18 AWG OR DIN RAIL MOUNTED SPRING FORCE TERMINALS.

<17> UNIT PROVIDED DRY CONTACTS FOR THE CONDENSER/CHILLED WATER PUMP CONTROL. RELAYS ARE RATED FOR 7.2 AMPS RESISTIVE, 2.88 AMPS PILOT DUTY, OR 1/3 HP, 7.2 FLA AT 120 VOLTS 60 HZ, CONTACTS ARE RATED FOR 5 AMPS GENERAL PURPOSE DUTY 240 VOLTS.

<18> CUSTOMER SUPPLIED CONTACTS FOR ALL LOW VOLTAGE CONNECTIONS MUST BE COMPATABLE WITH DRY CIRCUIT 24 VOLTS DC FOR A 12 mA RESISTIVE LOAD. SILVER OR GOLD PLATED CONTACTS RECOMMENDED.

<19> THE CONTACTS FOR AUTO STOP AND EMERGENCY STOP SWITCHES ARE JUMPERED AT THE FACTORY BY JUMPERS 1W1 & 1W2 TO ENABLE UNIT OPERATION. IF REMOTE CONTROL IS DESIRED, REMOVED THE JUMPERS AND CONNECT TO THE DESIRED CONTROL CIRCUIT.

20. SOLID OVALS REPRESENT MAX NUMBER OF CONDITS AND/OR CABLE GLANDS USED.

<21> FIELD WIRING REQUIRED ONLY WITH FIELD INSTALLED PUMP OPTION.

<22> 400V, 50Hz UNITS WILL BE FACTORY WIRED TO UTILIZE 230V ACROSS THE HEATERS.