

TITLE: TRC REV.B I20/60/I, 208-240/60/I, 277/60/I, UNIT-MOUNTED ACO

PCN: 22-0237 **DATE:** 5/20/22

DRAWING NO. **96B04I4N2I** REV -

LEGEND

- Factory Low voltage Wiring
- Factory Line Voltage Wiring
- Field Low voltage Wiring
- Field Line voltage Wiring
- Printed Circuit Trace
- Optional Wiring
- Optional Block
- Capacitor
- Circuit Breaker
- Condensate Pan
- Control Board Jumper
- FUSE
- Ground
- High Pressure Switch
- LED
- Low Pressure Switch
- Mate-N-Lock
- Multi Splice Connector
- Optional Overload
- Relay contacts - N.C.
- Relay contacts - N.O.
- Relay / Contactor Coil
- Solenoid Coil
- Splice Cap
- Temperature Switch
- Thermistor
- Wire Nut

ACO Automatic Change Over
AL Alarm Relay Contacts
ATS Air Temperature Sensor
BM Blower Motor
BMC Blower Motor Capacitor
BR Blower Relay
CAP Capacitor
CB Circuit Breaker
CC Compressor Contactor
CDT Compressor Discharge Temperature
CO Condensate Overflow Sensor
CR Compressor Relay
CRC Compressor Run Capacitor
CS Current Sensor
DHW Domestic Hot Water
DM Damper Motor
DTS Discharge Temperature Switch
EEV Electronic Expansion Valve
EHC Electronic Heat Contactor
ES End Switch
ETC Electronic Temperature Control
EWT Entering Water Temp Sensor
FSR Fan Speed Relay
FSS Fan Speed Switch
HP High Pressure Switch
HPWS High Pressure Water Switch
HR Heating Relay
JW Jumper Wire
LAT Leaving Air Temperature
LOR Lock Out Relay
LP Low Pressure Switch
LT1 Sensor, low temp protection, water coil
LT2 Sensor, low temp protection, air coil
LWT Leaving Water Temp Sensor
MCO Manual Change Over
MOD Modulating Water Valve
MS Manual Starter
MSC Multi Splice Connector
MWV Motorized Water Valve
NLL Night Low Limit Switch
PDB Power Distribution Block
POT Potentiometer
P1 Field Wiring Terminal Block
PR Pump Relay
RAS Return Air Sensor
RVS Reversing Valve Solenoid
SAC Start Assist Capacitor
SAS Supply Air Sensor
TB Terminal Block
TRANS Transformer
UMT Unit Mounted Thermostat
VFD Variable Frequency Drive
VSP Variable Speed Pump
WSTAT Water Stat

NOTES:

- Compressor and Blower Motor thermally protected internally.
- All wiring to the unit must comply with NEC and local codes low voltage wiring shall be Class 2 or equivalent.
- Field Use Only: Transformer wiring is voltage sensitive. Use layout corresponding to the unit voltage.
- LT1 provides low temperature protection for WATER. When using ANTI-FREEZE solutions, cut JW3 jumper.
- Typical heat pump thermostat wiring shown. Refer to thermostat IOM for wiring to the unit. T-Stat wiring must be "Class 1" and voltage rating equal to or greater than unit supply voltage.
- 24V Alarm signal shown. For Dry Alarm contact between AL1 & AL2, cut JW1 for CXM/DXM Gen2 or JW4 DXM.
- Transformer Secondary Ground via control board standoffs and/or Common to Control Box.

BM11. Blower motor is factory wired for high & low speeds. For any other combination of speeds, at the motor attach the black wire to the higher of the two desired speed taps, and the red wire to the lower of the two desired speed taps.

The main schematic illustrates the electrical architecture of the unit. It begins with a 265 V SYSTEM (NEUTRAL ON) entering a PDB (Power Distribution Block). From there, it branches into several paths: one through a transformer (208/240V) to a 24V circuit involving CB (Circuit Breaker), YEL, and BLU wires; another through a CR (Compressor Relay) and TI (Terminal Insulator) to a COM (Common) point; and others leading to various capacitors (CAP), switches (SW), and relays (RELAY). The compressor (COMPRESSOR) and blower motor (BLM) are shown with their respective windings and connections. Sensors such as HPWS (High Pressure Water Switch), LAT (Leaving Air Temperature), CDT (Compressor Discharge Temperature), EWT (Entering Water Temp Sensor), LWT (Leaving Water Temp Sensor), and RAS (Return Air Sensor) are connected to specific terminals. Terminal blocks J1 through J8 are used for organizing multiple wires. A detailed legend on the left defines all symbols and abbreviations used throughout the diagram.

***CORD CONNECTION OPTION**

208V

115V

*** PUMP OPTION**

Control Box Layout

The bottom right section provides visual aids for installation. It shows two options for cord connection: one for 208V and one for 115V, both featuring a multi-splice connector (MSC) and end switch (ES). The 'PUMP OPTION' diagram shows how to connect a pump to the control box terminals. The 'Control Box Layout' photograph shows the physical arrangement of components inside the control box, including the compressor capacitor, start assist capacitor, CXM (Compressor Xformer Module), blower relay 2 (high), power distribution block, ground, transformer, compressor relay, blower relay 1 (low), and various capacitors and resistors.

*** OPTIONAL FOR MWV ONLY**

This optional diagram shows the wiring for a Motorized Water Valve (MWV) using a multi-splice connector (MSC) and end switch (ES).