



CMC to CXM CONVERSION INSTALLATION INSTRUCTIONS

*** IMPORTANT * READ AND UNDERSTAND ALL INSTALLATION INSTRUCTIONS BEFORE BEGINNING CONVERSION. INSTALLATION OF THE NEW CXM CONTROL BOARD SHOULD ONLY BE ATTEMPTED BY A QUALIFIED TECHNICIAN.**

- 1) Disconnect power supply(s) to heatpump unit. Failure to disconnect power supply may result in damage, serious injury, or death.
- 2) Remove old CMC control board(s) and mounting standoffs from unit control box. Insert wires into new retro-harness as disconnected, or label wires as removed for easier identification during installation.
- 3) Drill (4) 1/8" diameter holes for each board in unit control box for new mounting screws using drawing provided. Install the new CXM control board(s) using the screws provided.
 - **IMPORTANT:** Electrical grounding for the CXM control board(s) is provided via the metal standoffs of the board. **ALL MOUNTING SCREWS MUST BE INSTALLED FOR PROPER BOARD OPERATION.**
 - **NOTE:** If the CXM control board is being installed in a unit with high voltage connections to the L1 and L2 terminals of the CMC board, the terminal connector provided with the kit will also need to be installed in the unit control box.
 - **NOTE:** If the relays on the CMC control board are being used for direct high voltage switching for the fan and compressor motors, the new relay and compressor contactor provided in the kit must be installed in the unit control box. If the relays on the CMC control board are being used for switching of the 24 V control circuit, use the outputs on the new control board for the compressor relay/contactor control. Use the fan enable and/or fan speed relays on the new control board for control of the fan motor. Refer to the CXM manual for operation of the fan relays.
- 4) Install the FP-1 and FP-2 sensors in the proper location (if used). See refrigerant piping detail for proper sensor location.
 - **NOTE:** The existing freezestat can be used in place of the FP-1 sensor, and the FP-2 sensor can be omitted, however the CXM UPS feature will be inoperative and **must** be disabled. **Both sensors must be installed in the proper location for the UPS feature to operate properly.** If the FP-2 sensor is not used, the violet jumper wire must be installed in the retro wiring harness at the FP-2 pins **and** the UPS feature **must** be disabled. To disable the UPS feature move dip 1 to the "OFF" position.
- 5) Connect the wiring from the unit safeties and sensors to the retro-harness if not done in step 2. Plug the retro-harness connector onto the new CXM board(s) in the proper location. Connect the thermostat, transformer, compressor contactor, fan motor wiring, and any accessory wiring to the new CXM board 1 to the proper terminals. Connect high voltage wiring to the terminal block connector if required. **REFER TO THE NEW WIRING DIAGRAM PROVIDED FOR PROPER WIRING OF THE NEW CXM CONTROL BOARD(S).**
 - Note: The thermostat wiring terminal block may be removed from the CXM board for easier access to the wiring connections. The shutdown and accessory relay terminal blocks are non-removable.



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6) Install a new wall thermostat. The CXM control board will require a new heat pump thermostat to be installed unless the existing thermostat can be rewired to operate as a heat pump stat (Y1 = compressor 1, Y2 = compressor 2, O = reversing valve(s) for cooling. **All ClimateMaster CXM control boards will energize the reversing valve in the cooling mode. Use the “O” terminal on the thermostat.**

7) Determine the proper operating temperature and alarm parameters, check the board jumpers (JW1-3) and clip the board jumpers only if required AND if the new FP sensors have been installed. refer to the IOM for a full description of the jumper functions and operating ranges.

• **CAUTION: CLIPPING BOARD JUMPERS WILL CHANGE THE TEMPERATURE PROTECTION RANGE OF THE UNIT AND MAY LEAD TO EQUIPMENT DAMAGE AND MAY VOID ANY REMAINING WARRANTIES IF NOT PROPERLY DONE. ONLY CLIP THE JUMPERS IF YOU ARE SURE. DO NOT CLIP THE JUMPERS IF YOU ARE NOT SURE OF THE PROPER TEMPERATURE OPERATING RANGE OF THE UNIT.**

8) Recheck all wiring terminations for proper location and connection. Turn on power supply(s) to unit. Check voltage at R and C terminals. Voltage must be between 19 and 30 VAC. Adjust the thermostat and check the CXM control board through all stages and modes of operation.

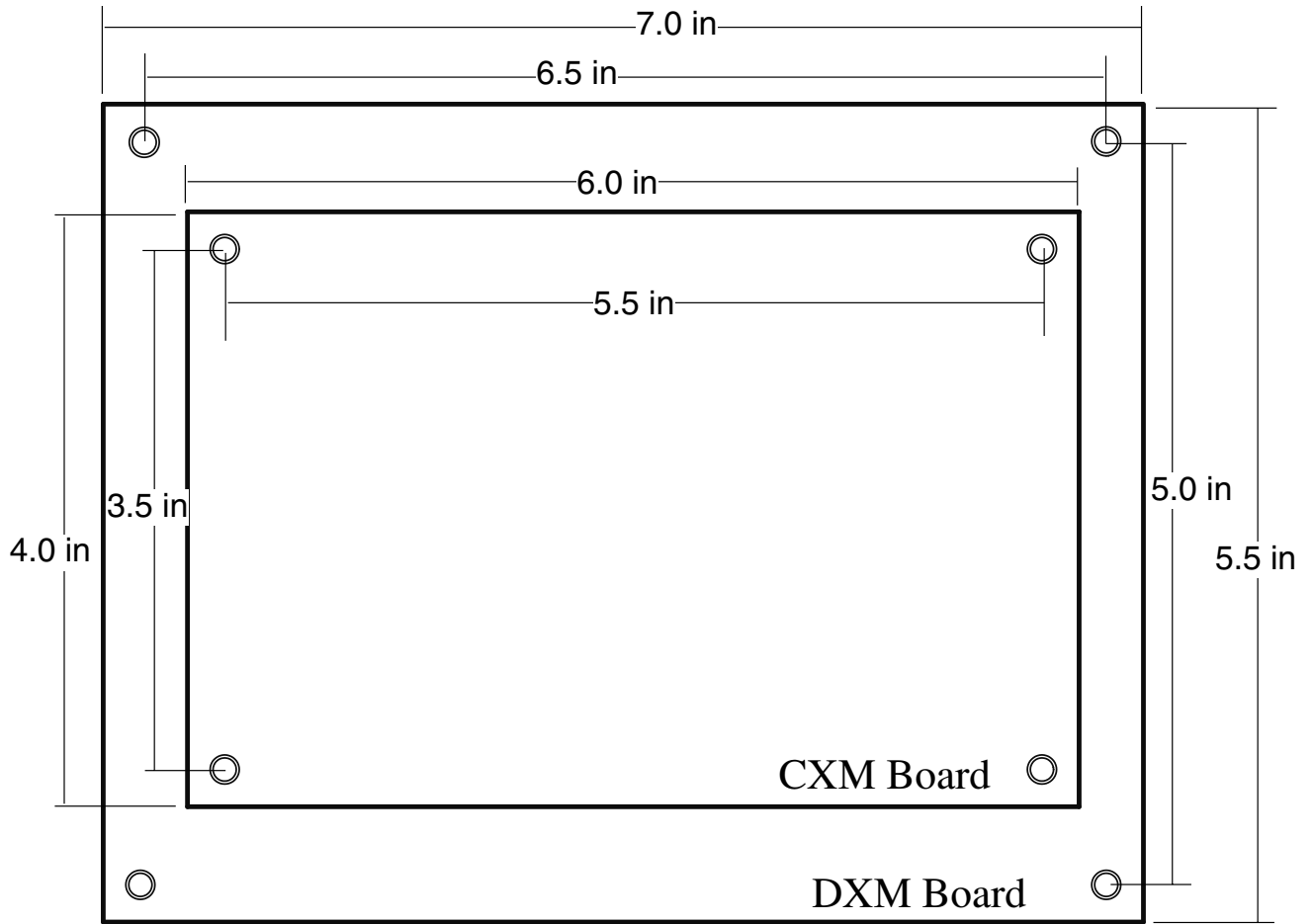
NOTE: Shorting across the board test pins for one second will cause the board to enter the test mode. In the test mode, all time delays will be sped up by a factor of fifteen to aid in the checkout procedure. The CXM control board will revert to normal time delay functions after approx. 20 minutes, or the test pins can be shorted for three seconds to exit the test mode. **USE CAUTION WHILE IN THE TEST MODE, SHORT CYCLING OF THE UNIT MAY LEAD TO COMPRESSOR DAMAGE OF FAILURE.**

9) Remove the old unit wiring diagram and install the proper new wiring diagram in its place. Note any changes or special features on the new wiring diagram. Install one conversion sticker in close proximity to the unit data plate and one conversion sticker close to the new wiring diagram. **THE NEW WIRING DIAGRAM AND CONVERSION STICKERS MUST BE INSTALLED TO AID IN FUTURE SERVICING AND PART ORDERING OF THE UNIT.**

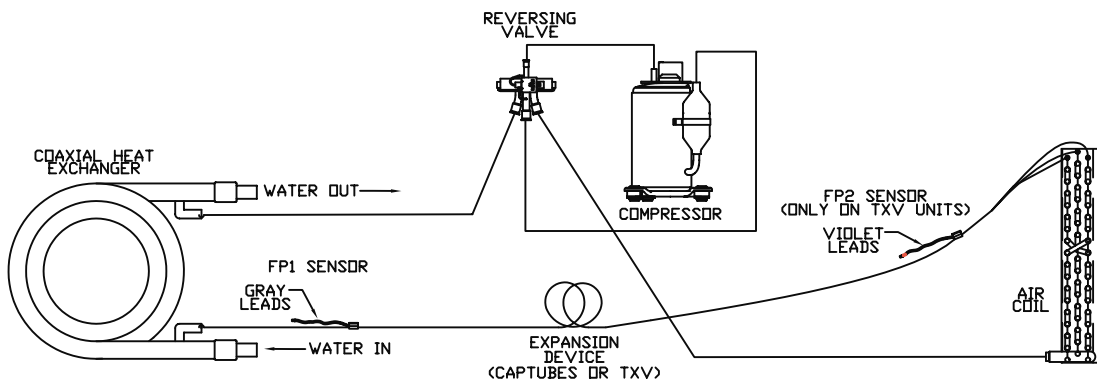
CMX WIRE CHART FOR 1 & 2 STAGE UNITS

Color	Gauge	Insul Thick	Length	Terminal 1	Terminal 2	From	To
BLU	18	2/64	32	Ins Straight	Ins Straight	CXM2 (CC)	CC2 (COIL)
BRN	18	2/64	12	Ins Straight	Ins Straight	CXM1 (C)	CXM2 (C)
BRN	18	2/64	24	Ins Straight	Ins Straight	CXM1 (BRG)	BC (COIL)
BRN	18	2/64	27	Ins Straight	Ins Straight	CXM1 (CCG)	CC1 (COIL)
BRN	18	2/64	33	Ins Straight	Ins Straight	CXM2 (CCG)	CC2 (COIL)
GRY	18	2/64	9	Male-Female	Ins Straight	CXM1 (BR)	CXM2 (BR)
GRY	18	2/64	22	Ins Straight	Ins Straight	CXM1 (BR)	BC (COIL)
ORG	18	2/64	36	Male-Female	Male-Female	RV1 (O)	RV2 (O)
RED	18	2/64	14	Ins Straight	Ins Straight	CXM1 (R)	CXM2 (R)
VIO	18	2/64	21	3/8 Strip	3/8 Strip	CXM1 (AL1)	CXM2 (AL1)
YEL	18	2/64	16	Ins Straight	Ins Straight	CXM1 (CO)	CXM2 (CO)
YEL	18	2/64	26	Ins Straight	Ins Straight	CXM1 (CC)	CC1 (COIL)

NOTE: FOR SINGLE STAGE UNIT USE ONLY WIRES FROM DXM1 CONNECTIONS. DISCARD UNUSED WIRES.



Drawing not to scale



FP SENSOR INSTALLATION GUIDE



Part # 97B0012N02



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