General Service Bulletin **RTHB-SB-9**

Library	**Service Literature**
Product Section	**Refrigeration**
Product	**Rotary Liquid Chillers - W/C**
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Literature Change History:
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Subject:

By-passing Motor Temperature Sensors

Introduction:

The purpose of this bulletin is to provide a procedure to bypass the motor temperature sensors if the sensor fails.

Discussion:

Each RTHA/RTHB compressor has three motor temperature sensors embedded in the motor windings. After additional laboratory testing, and several years of field experience, the motor temperature sensors have been deemed unnecessary for the protection of the unit. There are several other diagnostics that protect the unit sooner than the motor temperature sensors, if there is a problem with the motor.

With the results of laboratory testing, Trane Pueblo recommends that any or all three motor sensors be by-passed on a sensor failure rather than the opening the compressor to insert new motor temperature sensors.

Corrective Action:

To bypass the motor temperature sensors upon a failure follow the procedures listed below.

1. Disconnect all power to the unit.

CAUTION:To prevent personal injury and/or equipment damage, disconnect the electrical power to the unit prior to attempting the following procedure.

2. Confirm with the temperature sensor check-out procedure listed in RTHB-SB-5 that the motor temperature sensors are faulty.

NOTE: If some of the motor sensors are operational, they can be left in tact and a resistor only used in place of the failed sensor.

3. With all three sensors confirmed faulty, disconnect J3-1, J3-3, J3-5 and J3-6 from the Circuit Module (1U2) on the RTHB units. Refer to Table 1 for connection points on an RTHA unit.
4. Leave the sensors wires disconnected with a wire nut on the end of each wire for safety purposes.
5. On the RTHB units, place a 1/2 watt 75 ohm resistor between J3-1 and J3-6 on the 1U2 for sensor 1.
6. On the RTHB units, place a 1/2 watt 75 ohm resistor between J3-3 and J3-6 on the 1U2 for sensor 2.
7. On the RTHB units, place a 1/2 watt 75 ohm resistor between J3-5 and J3-6 on the 1U2 for sensor 3.
8. Re-apply power to the unit and confirm on the UCM the motor winding temperature readings on the CLD.
9. Go to the “Compressor Report” on the CLD and scroll down to “Compressor Winding Temperatures”. W1, W2, and W3 will read 75 F if the resistors are wired to the Circuit Module properly (RTHB units only).
10. Place the unit back in operation.

NOTE: If it is preferred that the sensors be replaced, new sensors can be attached to the stator using KIT 2206.

Table 1: Motor Winding Sensor Locations

Motor Winding Sensors	RTHA Units	RTHB Units
1	1U3, 1TB4-15 and 17	1U2, J3-1 and 6
2	1U3, 1TB4-16 and 17	1U2, J3-3 and 6
3	1U3, 1TB4-18 and 17	1U2, J3-5 and 6

Note: If the existing sensors are attached to the modules with a plug. Remove the wires of the faulty sensor from the plug and re-use the plug to attach the resistor to the module.

Units Affected:

This procedure can be used on any RTHA/RTHB compressor.

Parts Ordering:

This bulletin is informational only and does not authorize any parts or labor.