

aluminum to copper. This transition should be done in an external box separate to the power panel. Copper conductors can then be run from the box to the chiller.

A 120-1-60, 15 amp source must be supplied for the control panel through a fused disconnect when a control panel transformer (optional) is not provided (Refer to Figure 10).

See unit wiring diagrams for field and power wiring connections, chilled water pump starter contacts, alarm contacts, compressor run status contacts, PWM input, and load limit input. Refer to Section 8 “Unit Operation” for a detailed description of operation concerning aforementioned contacts and inputs.

### Evaporator Pump Start Contacts

Terminal block TB1 terminals 23 to 24, are normally-open contacts that can be used to switch field supplied power to provide a start signal to the evaporator pump contactor. The contacts will be closed when any of the following conditions occur:

1. Low Leaving Chilled Liquid Fault
2. Any compressor is running
3. Daily schedule is not programmed OFF and the Unit Switch is ON

The pump will not run if the micro panel has been powered up for less than 30 seconds, or if the pump has run in the last 30 seconds, to prevent pump motor overheating. Refer to Figure 11 and unit wiring diagram.

### System Run Contacts

Contacts are available to monitor system status. Normally-open auxiliary contacts from each compressor contactor are wired in parallel with TB1 terminals 25 to 26 for system 1, and TB1 terminals 27 to 28 for system 2 (YCAL0043 to YCAL0066). Refer to Figure 5, 11 and unit wiring diagram.

### Alarm Status Contacts

Normally-open contacts are available for each refrigerant system. These normally-open contacts close when the system is functioning normally. The respective contacts will open when the unit is shut down on a unit fault, or locked out on a system fault. Field connections are at TB1 terminals 29 to 30 (system 1), and terminals 31 to 32 (system 2 YCAL0043 to YCAL0066).

### Remote Start/Stop Contacts

To remotely start and stop the chiller, dry contacts can be wired in series with the flow switch and CTB1 terminals 13 to 14. Refer to Figure 5, 11 and unit wiring diagram.

### Remote Emergency Cutoff

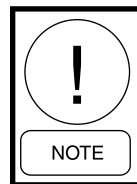
Immediate shutdown of the chiller can be accomplished by opening a field-installed dry contact to break the electrical circuit between terminals 5 to L on terminal block TB1. The unit is shipped with a factory jumper installed between terminals 5 to L, which must be removed if emergency shutdown contacts are installed. Refer to Figure 11 and unit wiring diagram.

### Remote Temp Reset Input

The Remote Temp Reset input allows reset of the chilled liquid setpoint by supplying a voltage or current signal field wiring should be connected to CTB1 terminals A+ to A-. A detailed explanation is provided in the Unit Control section. Refer to Figure's. 3 and 5 and unit wiring diagram.

### Load Limit Input

Load limiting is a feature that prevents the unit from loading beyond a desired value. The unit can be “load limited” either 33%, 40%, 50%, 66% or 80%, depending on the number of compressors on unit. The field connections are wired to CTB1 terminals 13 to 21, and work in conjunction with the PWM inputs. A detailed explanation is provided in the Unit Control section. Refer to Figure 5, 11 and unit wiring diagram.



***When using the Load Limit feature, the PWM feature will not function – SIMULTANEOUS OPERATION OF LOAD LIMITING AND TEMPERATURE RESET (PWM INPUT) CANNOT BE DONE.***

### Flow Switch Input

The flow switch is field wired to CTB1 terminals 13 and 14. See Figure 4 and the unit wiring diagram.

### COMPRESSOR HEATERS

Compressor heaters are standard. Non-standard applications are as follows:

- ZP103, ZP120 and ZP137 compressors utilize 90W heaters
- ZP180 compressors utilize 70W heaters
- ZP235 compressors utilize 120W heaters

If power is OFF more than two hours, the crankcase heaters must be energized for between 18 and 24 hours