YORK®

ES Service Information

File In/With:	160.55-M1 160.55-RP1	SI0079 New 1-04
Equipment Affected:	YT Chillers	

Software Enhancements Effective January 2004

General

Beginning January 2004, enhanced software will be supplied in all new production YT chillers. It is backward compatible to all previous YT chillers. The enhancements are outlined below.

The versions and part numbers for 031-01730-000 Microboards are as follows:

- NEMA 1-4 chillers C.MLM.02.05.105 (p/n 031-02004-001)
- CE chillers C.MLM.02.05.204 (p/n 031-02004-002)

The versions and part numbers for 031-02430-000 Microboards are as follows:

- NEMA 1-4 & CE chillers C.OPT.02.05A.301 (p/n 031-02469-001)

OptiSave Energy Analyzer Feature

This feature reveals the advantage of a compressor motor variable speed drive. It calculates the amount of energy that has been saved by having a variable speed drive instead of a constant speed drive. The savings are determined by calculating the energy consumption of a constant speed drive and subtracting the measured energy consumption of the variable speed drive. The resulting difference is the energy savings. This data is displayed but does not affect chiller operation or performance.

Although this feature is present in this software, it is not operational until enabled using a special procedure.

Refer to Service Information letter SI0068 for a complete description of this feature. It provides all required installation, enable and setup information.

Surge Protection

If the chiller is equipped with a compressor motor Variable Speed Drive (VSD):

- The surge SHUTDOWN feature, EXTENDED RUN feature and surge warning messages will not be performed unless the VSD output frequency is at maximum.

If the chiller is equipped with both a VSD and the Hot Gas Bypass feature:

- The Hot Gas Valve position must be at 100% AND the VSD output frequency must be at maximum before the above surge features are performed.

For all applications, the COUNT WINDOW setpoint default is now 3 minutes (was 5 minutes). The COUNT LIMIT setpoint default is now 15 surges (was 4 surges).

Pre-rotation Vanes Calibration

There is now one procedure for all Pre-rotation Vanes (PRV) calibrations. This procedure applies to the compressor motor variable Speed Drive (VSD), Hot Gas Bypass and any other PRV calibration.

1. Place the COMPRESSOR switch in the Stop-reset position (O) and wait until the System Coastdown is complete.
2. At the keypad, login at Service access level.
3. Select the PRE-ROTATION VANES CALIBRATE screen from the COMPRESSOR screen.
4. Press the START CALIBRATION key to initiate the calibration. The CALIBRATION IN PROGRESS and PRV OPENING LED will illuminate and an open signal is applied to the PRV. After a 60 second delay, the program begins evaluating the feedback voltage from the PRV potentiometer. When the feedback voltage stops increasing and remains stabilized (so that there is no more than $\pm$ 0.25vdc deviation) for 25 continuous seconds, the feedback voltage is logged as the 100% position. A close signal is then applied to the PRV and illuminates the PRV CLOSING LED. After a 10 second delay, the program begins evaluating the feedback voltage from the PRV potentiometer. When the feedback voltage stops decreasing and remains stabilized (so that there is no more than $\pm$ 0.25vdc deviation) for 25 continuous seconds, the feedback voltage is logged as the 0% position. These endpoint voltages are stored in the BRAM as the full open and full closed positions.
5. If the difference between the endpoint voltages is greater than 0.5vdc, “PRV Calibration Successful” is displayed. Otherwise, “PRV Calibration Unsuccessful” is displayed. Also, if the endpoints are not established within 10 minutes, “PRV Calibration Unsuccessful” is displayed.

The calibration procedure can be terminated at any time during the procedure by pressing the CANCEL CALIB key. If the PRV were previously calibrated successfully, it will revert to using the previous calibration values. If they were not previously calibrated successfully, they will remain uncalibrated.

VSD Adaptive Capacity Control - Stability Limit Setpoint

This compressor motor Variable Speed Drive setpoint default is now 7000 (was 4500).

Microgateway Induced Reboots

With previous Flash Memory Card versions, Microgateway communications could cause the Microboard to randomly reboot. This has been corrected in this version.