



Service Information

File In/With: -		SI0373	
		New	118
Equipment Affected: YK Style G			
V04 03630 OptiView and Microboard Software Release			

GENERAL

Beginning January 2018, the enhanced software version V04 and replacement microboard (P/N) 331-03630-601 are applied on all new production YK chiller units and MOD-G units with microboard (P/N) 031-03630-001. The microboard, software version and the program card part number are as follows:

031-03630-001 = Y.OPT.01.04.308 (P/N 031-03601-002)

The software version V04 includes the following enhancements and bug fixes.

PRV START POSITION

PRV Start Position is now configurable to allow PRV positioning between 0 to 30% within the Capacity Control Setpoints screen of the VSD Chillers, those starting at low-ambient conditions. The PRV Start Position is added to the Setpoints Report that can only be configured with an Administrator username and password.



LD03486

Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

The instructions on this service bulletin are written assuming the individual who will perform this work is a fully trained HVAC & R journeyman or equivalent, certified in refrigerant handling and recovery techniques, and knowledgeable with regard to electrical lock out/tag out procedures. The individual performing this work should be aware of and comply with all Johnson Controls, national, state and local safety and environmental regulations while carrying out this work. Before attempting to work on any equipment, the individual should be thoroughly familiar with the equipment by reading and understanding the associated service literature applicable to the equipment. If you do not have this literature, you may obtain it by contacting a Johnson Controls Service Office.

Should there be any question concerning any aspect of the tasks outlined in this bulletin, please consult a Johnson Controls Service Office prior to attempting the work. Please be aware that this information may be time sensitive and that Johnson Controls reserves the right to revise this information at any time. Be certain you are working with the latest information.

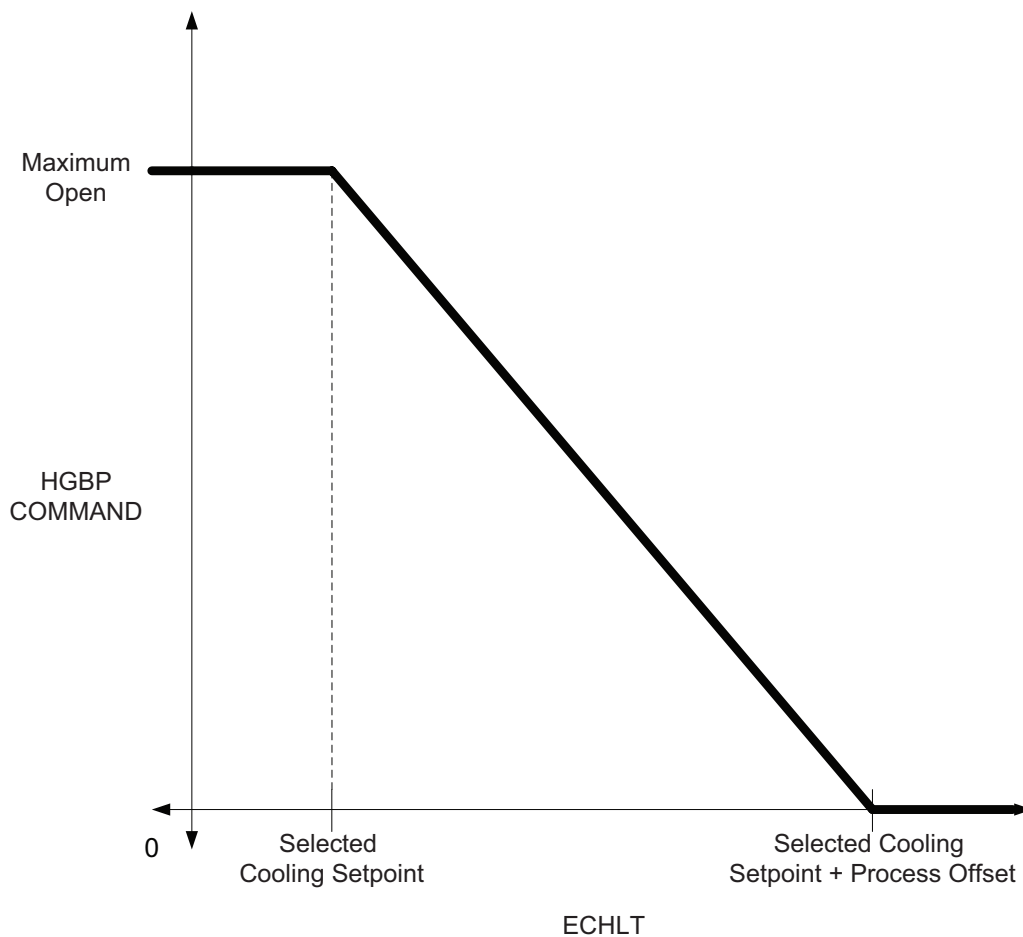
Contact Johnsons Controls to access the Capacity Controls Setpoints screen.

HOT GAS BYPASS

Process Hot Gas

This change allows the control center to respond quicker and load changes occurring within the cooling applications. Enabling the Process Hot Gas and Hot Gas Control, impacts the hot gas bypass valve as described below:

- Hot Gas Surge Response and Minimum Load Control are disabled, thereby disabling the Hot Gas VGD Control.
- When the Chiller state is in Coastdown or is Stopped, the HGBP command is set to 0%.
- When the Chiller state is Prelube, Running, or Soft Shutdown, the HGBP command is set based on ECHLT. The ECHLT control conditions are as follows:
 - a. When $ECHLT < \text{Selected Cooling Setpoint}$, the HGBP command is set to Maximum Open.
 - b. When $ECHLT > \text{Selected Cooling Setpoint} + \text{Process Offset}$ (adjustable at service level from 0.5°F to 40.0°F, with 10°F default), the HGBP command is set to 0.0%.
 - c. When ECHLT is between the Selected Cooling Setpoint and Selected Cooling Setpoint + Process Offset, the HGBP command is a linear value between Maximum Open and 0.0%.



LD23485

Hot Gas Liquid Injection

The software version V04 adds the capability to control Hot Gas Liquid Injection. DO8 on TB12 location of the LTC I/O board regulates a Hot Gas Liquid Injection Solenoid. When the Hot Gas Liquid Injection on the Hot Gas Bypass Screen is enabled:

- The Hot Gas Liquid Injection is turned ON, if all of the following are TRUE:
 - a. HGBP Command > Hot Gas Liquid Injection Threshold (Adjustable 5% to 100%, with a 100% default)
 - b. Chiller state is Running or Soft Shutdown.
- The Hot Gas Liquid Injection is turned OFF, if all of the following are TRUE:
 - a. HGBP Command < Hot Gas Liquid Injection Threshold (4.9%)
 - b. Chiller state is NOT Running or NOT Soft Shutdown.

CONDENSER LEVEL CONTROL

The following two setpoints are added to allow better refrigerant level control (access allowed with an administrator username and password).

1. High Load Level Setpoint (adjustable 20% to 80%, with a default value of 50%)
2. High Load Current Threshold (adjustable 30% to 100%)

At unit start-up, if motor current is less than 20% below the High Load Current Threshold, then the refrigerant level control will increase by 0.1% per second of the High Load Level Setpoint. Once the motor current acquires 20% of the High Load Current Threshold, the Level Setpoint is set to the High Load Level Setpoint. This stabilizes the refrigerant level control.

LOSS OF SUB-COOLER LIQUID SEAL WARNING

Previous software versions fail excluding this feature during Soft Shutdown of the unit. The new software release V04 corrects this by excluding "Loss of Sub-Cooler Liquid Seal Warning" during Soft Shutdown and also increases the time to set the warning from 2 continuous minutes to 5 continuous minutes.

KWH RESET BUTTON

The faulty display of the kWh button on the Motor Controller Screen at Service level of the V03 software is now set back to Admin level in the new V04 software release.

STANDBY LUBRICATION TIMER

Fixed the Counting Down error of the Standby Lubrication Timer, prevailing from the previous software versions.

BAS REMOTE CONTROL

Fixed the error where BAS Remote Control was only accepting setpoint changes with the Control Panel in Service mode, but was not accepting remote setpoint changes with the panel in Operator or View levels.

WARNING - "HARMONIC FILTER: OPERATION INHIBITED"

The new software version fixes this warning message and is only displayed when the operator inhibits the Harmonic Filter Operation and the filter is present.

LCSSS

Fixed a bug that displayed "Requesting Fault Data..." instead of the "Phase Rotation Fault Message" after a power cycling event.

HIGH TEMPERATURE HEAT PUMP

The new software version V04 supports the new High Temp Heat Pump.

RAPTYR VSD

The VSD - LINE VOLTAGE PHASE ROTATION safety and the VSD - PHASE LOCKED LOOP safety are now changed from Safety Lockouts to Cycling Safeties.