



BY JOHNSON CONTROLS

# Service Information

File In/With: 160.54-M1 160.54-O1

SI0210

New 509

Equipment Affected: YK Chillers

YK Centrifugal Chillers Software Enhancements (V20)

## General

Beginning June 2009, enhanced software will be supplied in new production YK chillers and replacement micro-board kit 331-02430-601. This software is backward compatible to all previous chillers equipped with microboard 031-02430-000 or 031-02430-001. The enhancements are listed below.

The software version and Program Card part number is: C.OPT.01.20.307 (031-02474-001)

## Medium Voltage Variable Speed Drive

The following new features are added:

### New Data Values

The following new values are now read from the MV VSD:

- Programmed Maximum Drive Output Frequency
- Programmed Motor Power Rating

Mobus Address	Name	Scale
40033	Rated Output Voltage	x10
40034	Rated Output KW	x10
40058	Rated Output Frequency(History Data)	x10
40059	Rated Output KW(History Data)	x10

### MV VSD Model

The MV VSD Model is displayed on the MV VSD Drive Screen in the data box labeled “MV VSD Model” as a number representing the horsepower rating followed by “HP” (ie; 1500HP). The model number is derived from the Motor Rated Voltage (Modbus Address 40012) and the Programmed Drive Current (Modbus Address 40013) according to the following table. If this results in a model that is not defined in the lookup table, the model number is displayed as “INVALID” and the chiller will not be allowed to run while this is displayed.

		Motor Rated Voltage (V)		
		2300 V	3300 V	4160 V
Model in HP	500	107 A	78 A	62 A
	600	129 A	93 A	74 A
	700	157 A	110 A	87 A
	800	172 A	124 A	99 A
	900	202 A	141 A	112 A
	1000	224 A	156 A	125 A
	1250	280 A	195 A	155 A
	1500	336 A	235 A	186 A
	1750	392 A	274 A	217 A
	2000	438 A	312 A	248 A
	2250	494 A	345 A	274 A
2500	561 A	391 A	310 A	

Max. Job/Rated 100% FLA (A) (Programmed Drive Current)

**Full Load Amps Setpoint (Maximum Value)**

The maximum allowed programmable value of the “Full Load Amps” Setpoint on the MV VSD Screen is now set to the PROGRAMMED DRIVE CURRENT (Modbus Address 40013) value received from the MV VSD. In previous software versions, it was derived from a lookup table based on the MOTOR RATED VOLTAGE and MV VSD Model.

**Motor Voltage Rating**

On the MV VSD Screen, the “Voltage Rating” display has been changed to read “Motor Voltage Rating”. Displayed in Volts, as received from the MV VSD. If any invalid “Motor Voltage Rating” is received from the MV VSD, “INVALID” is displayed and the chiller will not be allowed to run while this is displayed.

**Output Frequency Rating**

A new data box is added to the MV VSD Screen labeled “Output Frequency Rating”. The rated output frequency (Modbus Address 40033), as received from the MV VSD, is displayed here. This value is the maximum drive frequency (Hz) when it receives a 100% speed command from the OptiView Control Center. If the value received is not 50Hz or 60Hz, “INVALID” is displayed. If this is the case, then the “Motor Voltage Rating” (above) determines the maximum frequency as follows:

<b><u>Motor Voltage Rating</u></b>	<b><u>Output Frequency Rating</u></b>
2300 or 4160V	60Hz
3300V	50Hz

**Toll Free Phone Number**

The label for the toll free number has been changed from “York Int’l North American Toll Free Number” to “Johnson Controls North America”

**Japanese Language**

Japanese has been added to the selection of languages.

**Variable Speed Drive Low Frequency Fault**

In previous software versions, the “VSD – Low Frequency Detected” safety fault occurs when the VSD frequency is below 1Hz less than the minimum allowed running frequency after having reached the minimum frequency.

In this software version, the requirement to reach the minimum frequency before the fault can be detected, has been eliminated. Also, 20 and 25 second timers have been added to the requirement. The fault is now as follows: “After a 20 second bypass after entering “System Run”, the frequency must be below 1Hz less than the minimum frequency for 25 consecutive seconds before the fault will shutdown the chiller”.