YORK®
A JOHNSON CONTROLS COMPANY

ES Service Information

File In/With: N/A	SI0145
	New 6-06
Equipment Affected:	YK Chillers OptiView Control Center
New Microboard 031-02430-001	

GENERAL

Beginning June 2006, new YK chillers and replacement parts kit 331-02430-601 will be supplied with Microboard part number 031-02430-**001**. This Micropboard is an upgraded version of the present production 031-02430-**000** microboard. The upgrade includes a larger BRAM (U38) and an additional RS-485 port on COM2 for Modbus serial communications protocol.

These upgrades are necessary to operate with the new Medium Voltage Solid State Starter (MV SSS), since this drive requires RS-485 Modbus serial communications protocol to communicate with the microboard.

This upgraded board is backward compatible with existing YK chillers using the 031-02430-000 or 031-01730-000 microboard. With the exception of the changes below, this new board operates the same as the previous boards.

BRAM

The part number of the BRAM in microboard 031-02430-001 is 031-02565-000 and its size is 128KB. It is installed in a 32-pin socket. Program Jumper JP14 is a removable 2-pin shunt type jumper. The 128KB BRAM requires the shunt be NOT INSTALLED and the board is supplied in this configuration. If the shunt is installed on JP14, it would apply DC power to an incorrect pin on the 128KB BRAM and the board would not function. The 128KB BRAM is required for MV SSS applications. The 128KB BRAM requires software that has “BRAM size detect” capability. If it does not have this capability, the board will not function. YK chiller software version C.OPT.01.15.xxx (and later) has this capability and is required.

The part number of the BRAM in microboard 031-02430-000 is 031-02431-000 and its size is 32KB. It is installed in a 28-pin socket. Program Jumper JP14 is a non-removable (soldered) wire jumper that connects DC power to the appropriate pin on the BRAM for 32KB operation.

COM2 Serial Port

The 031-02430-001 microboard has two selectable serial modes for COM2. It can operate in either RS-232 or RS-485 mode, depending on the position of program Jumper JP17 as follows:

- JP17 on pins 1 & 2 – RS-485 mode (required for MV SSS)
- JP17 on pins 2 & 3 – RS-232 mode

The 031-02430-000 microboard contains a single RS-232 port for COM2.

Software Requirement

The 031-02430-001 microboard is supplied from YORK with a 128KB BRAM (031-02565-000). In this configuration, software version C.OPT.01.15.xxx (and later) is required. It will not function with previous software versions in this configuration (see BRAM transfer exception below).

If this board is being used in applications other than MV SSS, the 32KB BRAM (031-02431-000) from a 031-02430-000 microboard can be transferred to the 031-02430-001 microboard (using the procedure below) to retain stored BRAM data. In this configuration, software versions prior-to or later-than C.OPT.01.15.xxx can then be used.

Microboard 031-02430-001/ 031-02430-000 Comparison

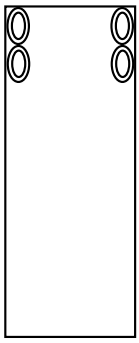
	031-02430-000	031-02430-001
BRAM	031-02431-000 (32KB)	031-02565-000 (128KB)
BRAM Socket	28 pin	32 Pin
Program Jumper JP14	Non-removable wire	2-pin shunt type w/shunt removed
COM2 Serial Port	RS-232	RS-232 or RS485 as selected w/JP17. RS-485 required for MV SSS.
Required Software	Any version	C.OPT.01.15.xxx or later (see BRAM transfer exception below).
Application	Except MV SSS,	All, including MV SSS.

Transferring a 32KB BRAM from 031-02430–000 Board to 031-02430–001 Board

For applications other than MV SSS, the 32KB BRAM (031-02431-000) from a 031-02430-000 microboard can be transferred to the 031-02430-001 microboard. This can be useful when it is desired to transfer a BRAM from one board to another to save stored setpoint, History, Sales Order, or OptiSave data.

To transfer the BRAM, perform the following:

1. Install a shunt over Program Jumper JP14. Use an unused black plastic shunt from JP9-JP12. (DO NOT USE JP1).
2. Install 32KB BRAM toward bottom of the BRAM socket (U38) so that there are 4 empty sockets at the top of the BRAM socket as shown.



3. With this configuration, the board can be operated with software versions prior to or later than version C.OPT.01.15.xxx.

Serial Communications with Medium Voltage Solid State Starters

The 031-02430-001 microboard communicates with the MVSSS using the COM2 (J13) RS-485 port with Modbus protocol. Refer to Fig 1.

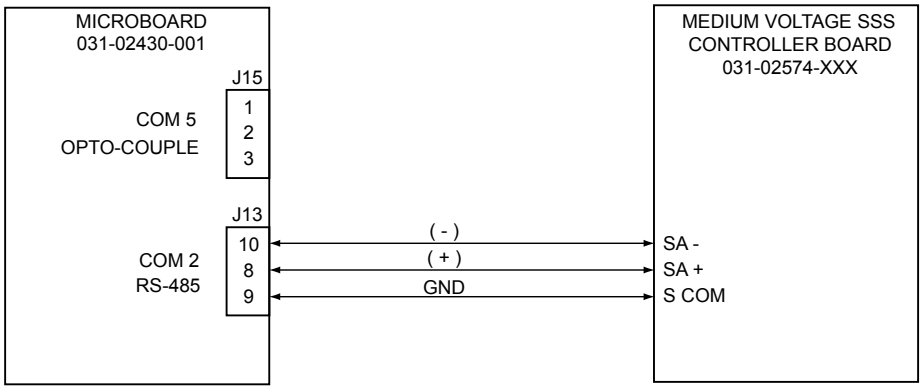


FIG 1