



BY JOHNSON CONTROLS

Service Information

File In/With: N/A

SI0244

New 911

Equipment Affected: YT Chillers

YT Version 19 Software Enhancements

GENERAL

Beginning August 2010, enhanced software is available for YT chillers replacement microboard kit 331-02430-602. This software is backward compatible to all previous YT chillers equipped with microboard 031-02430-000 or 031-02430-001. The version and Program Card part number is C.OPT.02.19.307 (031-02469-001) checksum 8A16.

The enhancements are listed below.

Medium Voltage VSD Support

The following enhancements were made to support Medium Voltage VSD:

- Added Modbus RTU communication on COM2.
- Added Adaptive Capacity Control logic.
- Added new screens to select MVVSD, diagnose COM 2 communication issues and display MVVSD parameters.
- Removed fault data form history report since this was not a true snapshot of parameters at instance of the fault.
- Fixed display message that erroneously displayed MOTOR – HIGH CURRENT LIMIT when MVVSD was placed in fixed speed control. The message will now read LOAD CONTROL MODE.
- Added support for additional models (11KV, 12.47KV and 13.8KV).
- Added a screen for MVVSD communications diagnostics and another screen to display the MVVSD parameters.

Medium Voltage SSS Support

The following enhancements were made to support Medium Voltage SSS:

- Added Modbus RTU communication on COM2.
- Added Kilowatt-Hour accumulator.
- Added MVSSS status messages.
- Added a screen for MVSSS communications diagnostics and another screen to display the MVSSS parameters.

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.

Product Technical Support

Liquid Cooled SSS Support

The following enhancements were made to support Liquid Cooled SSS:

- Added Modbus RTU communication on COM2.
- Allows selection of communication protocol for either YORK or Modbus.

Selectable Coastdown Time

Some YT chillers have special high voltage motors that have very large rotational mass which takes more than 150 seconds to stop. Chillers with motors with large rotational mass could still be coasting down when the post lube was terminated at 150 seconds. This lack of lubrication could cause undue wear on the bearings. A Service level selectable point has been added to the Setup Screen Standard Coastdown selection to allow setting the coastdown time between 150 and 900 seconds. The change in setting for this value will be logged in the security log and reported in the Setpoint Report.

Current Imbalance Message

The various Current Imbalance messages for the style A and B LCSSS, Style D VSD and Vyper VSD have been standardized to display MOTOR OR STARTER – CURRENT IMBALANCE.

Thermal Flow Switch Timing

Rapid changes in water temperature have caused nuisance Flow Switch trips. To eliminate these nuisance trips the timing for the Flow Switch open state has been increased from 2 seconds to 5 seconds for the Chilled Liquid and from 2 seconds to 30 seconds for the Condenser Water.

Safety/Cycling Fault Handling

Under some occasions, when a Safety Fault occurred followed by a Cycling Fault and the Safety Fault condition cleared, the unit would auto-restart after the Cycling Fault cleared. This has been corrected.

Adaptive Capacity Control

Trend slots were added and text was corrected for ACC data as follows:

- Slot 2849 ACC Surge Count
- Slot 2850 ACC Surge Type
- Slot 2857 ACC Surge Point Count
- Slot 2858 ACC Surge Delta P/P
- Slot 2859 ACC Surge Output Frequency
- Slot 2860 ACC Surge PRV Position

The ACC Details screen was modified to display additional information as follows:

- Added a Surge Map button to navigate to a new Surge Map Screen (Service Level Access required).
- Added a VSD Start Frequency button to allow changing the starting frequency from the default of 25 Hz for 50Hz units and 30 Hz for 60Hz units. (Admin Level Access required).
- Added the capability to enter a manual surge point, which requires the entry of the same password used to clear the surge map (0368).

Surge Detection

Enhancements to Surge Detection were made as follows:

- Change surge detection routine to only look for surge conditions 5 seconds after reaching startup frequency.
- Made changes to make surge detection less sensitive to noise.

Current Limiting

Corrected Current Limiting to allow VSD speed increase during surge as follows:

- When Motor Current is less than 80% FLA there is no speed increase limiting.
- When Motor Current is more than 80% FLA and less than or equal to 98% FLA the speed will increase 0.1Hz every $[2+(\%FLA-80)]$ seconds.
- When Motor Current is more than 98% FLA the speed will increase .1Hz every 20 seconds.

Trending

Trending enhancements were made as follows:

- Fixed bug that prevented max trend value from being set when in metric mode.
- The Y-axis did not scale properly at times to show the complete data on the screen. This has been corrected.

Motor Lubrication

Added the ability to enable/disable Warnings and Shutdowns for Auto Lube and Motor Lube (Service Access Level).

Software Update

The flash software loader program was changed to load quicker by verifying the program load once instead of the previous twice which was proven unnecessary for program load reliability.

TABLE 1 - ITALIAN LANGUAGE CORRECTIONS

TEXT LOCATION	ENGLISH	CURRENT ITALIAN	CORRECTED ITALIAN
MESSAGE	VSD – LOW CONVERTER HEATSINK TEMPERATURE	VSD – BASSA TEMPERATURA DISSIPATORE DEL	VSD – BASSA TEMP. DISSIPATORE CONVERTITORE
MESSAGE	CONTROL PANEL – POWER FAILURE	QUADRO DI CONTROLLO – MANCANZA DI	QUADRO DI CONTROLLO – MANCANZA DI TENZIONE
REFRIGERANT CONTROL SCREEN	SET ZONE	IMPOSTAZIONE LE ZONES	IMPOSTAZIONE DELLE ZONE
MOTOR LUBRICATION SCREEN	BY..... CHILLER MOTOR	RIARMANDO..... DEI MOTOREI	RIARMANDO..... DEI MOTORI
SETUP SCREEN	CHANGE SETTINGS	MODIFICA DELLE	MODIFICA DELLE IMPOSTAZIONE
HOME SCREEN	CONDENSER – PRESSURE TRANSDUCER OUT OF RANGE	CONDENSATORE – TRASDUTTORE DI PRESSIONE FUORI	CONDENSATORE – TRASDUTTORE DI PRESSIONE FUORI CAMPO
HISTORY SREEN	VANE MOTOR SWITCH OPEN	APERTURA DEL MOTORE DELLA SERRANDA A	FINE CORSA MOTORE SERRANDA APPERTO
WINDOW OF SLOTS	SMALL TEMPERATURE DIFFERENCE	BASSA DIFFERENZA DI TEMPERATURA	BASSA DIFFERENZA DI TEMPERATURA- EVAPORATORE-
WINDOW OF SLOTS	SMALL TEMPERATURE DIFFERENCE	BASSA DIFFERENZA DI TEMPERATURA	BASSA DIFFERENZA DI TEMPERATURA- CONDENSATORE-
HISTORY SCREEN	LEAVING CHILLED LIQUID – FLOW SWITCH OPEN	USCITA FLUIDO REFRIGERATO – APERTURA	USCITA FLUIDO REFRIGERATO – APERTURA FLUSSOSTATO
HISTORY SCREEN	LEAVING CONDENSER LIQUID FLOW SWITCH OPEN	USCITA FLUIDO CONDENSATORE – APERTURA	USCITA FLUIDO CONDENSATORE - APERTURA FLUSSOSTATO

CONDENSER LEVEL CONTROL

Changed the default setpoint from 30% to 50%.

HOT GAS CONTROL

Hot gas control is now allowed at all VSD frequencies.