



SOFTWARE RELEASE NOTES

MCS-MAGNUM

Version 17.50

10/30/2018

Updates from previous versions:

New Features:

1. Updated all MCS-Magnum projects to compile with Zilog ZDS II ez80acclaim 5.3.0 (Build 17041303)
2. New Firmware - CENT Only - RTM Logic from Shanghai
3. CENT Firmware only - for RTM comp only calculate the min allow speed based on the polynomial Hanbell provided.
4. CENT firmware only - RTM comp only - in startup do not allow comp to start until the stage feedback has reached it starting position, setpoint #221 value minus setpoint #221 low zone value. Low zone is used as deadband in case feedback does not exactly match the analog output. IF stage values fails to open in startup state generate an alarm using the setpoint #221 name.
5. All Firmwares - Added new field into AO_EEPROM for feedback indication si index. This will be used for new actuator feedback calibration logic.
6. HVAC firmware only - allow the config to control the safety unloading pulse on and delay between pulses for stepless slide control. if setpoint #56 is setup as "TARGET" type, then the hi zone field defines on the ON time to pulse the unloader relay during a safety unloading condition. And setpoint #56 low zone defines the delay between pulses.
7. AO USER Logic - add variable into target overlay for AO value when the control RO is off. This field was only in the linear control overlay.

Bug Fixes:

1. CENT firmware only - Allow the capacity control to keep loading (was getting stuck in "VaneOpen-SpdHold") if comp is in a safety unloading/holding. state.

Any questions regarding this release, contact:

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2. Logic Change - CENT Firmware only - for Hanbell RTM firmware do not close the vanes in surge control state, only increase speed.
3. Logic change - CENT firmware only - RTM Comp only - if more than 2 comps on unit do not force the wanted % and want speed to the surge unload vane and speed positions. Second comp need to continue to be controlled by chilled water out.
4. Logic Change - CENT Firmware only - RTM comp only - when unload the running comp to start next comp do not ramp down the vane to min, set the AO to min, the actuator will take 15-30 seconds to move the vanes to min. position, give a ramp down effect naturally.
5. Logic Change - CENT Firmware only - RTM comp only - when ramping down the speed for starting the next comp use setpoint #129(130) to reduce the speed by. it was using a hard code value of 5.0%.
6. Logic Change - CENT Firmware only - for non RTM VFD comps ramp the speed down slowing when start next comp. Also do not set the capacity control want vanes and speed to the comp surge unload values when more than one comp on the unit
7. Cent Firmware only - When starting a new comp unload the vanes and VFD slowing.
8. CENT firmware only - Corrected RTM min speed calculation.
9. CENT Firmware only - Worked on RTM firmware logic - wait for 2 comp to be ready before unloading first comp. corrected issue with chiller wanted speed not going to min when comp starts.
10. Logic Change - CENT Firmware only - RTM comps only - changed min speed allowed calculation to use the vane feedback position instead of the vane analog output value.
11. Logic Change - CENT Firmware only - RTM comp only - if in vanes hold state and the analog output does not match the wanted vane %, change the state to vanes opening or closing.
12. CENT firmware only - RTM comp only - correct issue in comp startup state, the check that added for staging valve position feedback to show the valve was open before allow the comp to start was using the wrong index, so the comp was not allowed to start and would fault on staging value.
13. Logic Change - CENT Firmware only - RTM comp type only - Do not run the T-Purge logic if setpoint #163 Purge Target is active and comp type = RTM. No purge logic in RTM. Using the purge si eerom fields as index for staging valve feedback sensor input.
14. CENT firmware only - RTM comp only - corrected issue when in comp startup and faults on vane indicator, it was generator a stage valve indicator fault alarm, instead of vanes. Was using the wrong index for the staging valve feedback, it was using the ao index not the feedback si index.

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15. Problem reported by JGW-> Test to dynamically change EXV start position was not setup to check for Fast SSH control 2.
16. CENT Firmware only - only close the EXV when turn off the last comp on the suction group. The old logic was set the exv state to closed when every comp on suction group was turning off. The comp that remains running gets the exv started again, but it was not the ideal sequence, therefore correct the issue.
17. CENT Firmware only - If the vane actuator or it's feedback failed, the capacity control could get stuck in "VaneOpen-SpdHold" waiting for the vanes to open. Give the vanes 2 mins to open or let the capacity control/comp move on to VFD loading.
18. EXV Fast Superheat II logic, the low suction psi open was using the wrong setpoint for exv adjustment amount.
19. EXV Fast & Fast II control with Subcooler EXV control had conflict with setpoint #65. Setpoint #65 value was being used to calculate EXV Zone for Low Suction, like it was being used in the old EXV control logic. But when you have fast exv logic and subcooler, #65 is being used for Subcooler EXV control.

Released new SW 17.50

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