



SOFTWARE RELEASE NOTES

MCS-MAGNUM Version 17.36AA 08/20/2018

Updates from previous versions: 17.34B

New Features:

1. Merged Nitromag code into Centrifugal and RTU.
2. Oil Recovery logic for Tandem Comps, one Variable speed and the other fix speed. Add balance logic to speed up variable speed comp if low oil level input comes on. Also add boost logic to force second comp on and speed up first comp should the balance logic fail to bring the oil back. This change was made per Danfoss VFD scroll oil management document.
3. EXV control: Started to add support for Fast SSH2 and EXV evap level control.
4. Added Nitromag code into REFR.
5. HVAC & RTU Firmware only - Add additional Bacnet & Modbus alarm indicators for comp sensor faults, ie suction, disch, motor, etc. sensors. Also add unit sensor fault alarm indicators for return, leaving, flow psi in/out #1/#2 fr both hvac and rtu. And for RTU zone and ambient temp.
6. HVAC & RTU only - Add support for Danfoss tandem scroll comps oil recovery logic (one variable speed and one fixed speed). Per Danfoss spec.
7. All Firmware version - Added support for Control 3 into circuit eeprom definition. This is require for Fast Superheat 2 type.
8. HVAC, RTU, CENT, MHRC, CDI - Add new Evap Approach calculation and option for EXV to control using it. Approach EXV run same logic a Suction Superheat EXV control and Fast Approach runs the same logic as Fast Suction Superheat control. Only different is circuit ram exv control field has approach vs suction superheat value.
9. All Firmware version - Added support for Control 3 into circuit eeprom definition. This is require for Fast Superheat 2 type. " Added in CENT"
10. All Firmware version - Added support for Control 3 into circuit eeprom definition. This is require for Fast Superheat 2 type. " Added in CENT"
11. Gami/Anand-> As per BWW : Development of new logic to allow Set point to be configure so that no password is required to change them.
12. Gami/Anand-> As per BWW : Development of new logic to allow Set point to be configure so that no password is required to change them.

Any questions regarding this release, contact:

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Bug Fixes:

1. HVAC/LWC: After loading new SW in the MCS Training room unit Mike Scriber noticed that the unit was resetting on watchdog #2. After connecting to the MCS-Magnum with the debugger I found that the Algo thread was getting stuck in the save_lockout_alarm_trend_points function because it was trying to save the lockout information of 51 circuits (chiller_eerom.numb_circuits was equal to 51) this variable is not used in LWC but it is in memory because LWC uses the HVAC code.
2. HVAC(High): Reported by Brian Reed from Napps Eng->" I tried to use Max Step user logic a couple of years ago for an earlier heat chiller project and found out that Max Step demand limit did not work in heat mode and it still does not work. It does work in cooling mode. "
3. RTU (High): Corrected Problem reported by Bret Lai->"In looking at the unit the compressor never turned the lls off and is still running after going to schedule off."
4. RTU (High): Problem reported by BCL on June 14, 2018. Keep supply fan running until all compressors go OFF after going to schedule OFF.
5. CDI, MHRC - skip running the subcooler exv logic if the subcooler AO is not valid. Not valid means no subcooler.
6. CPM(Low): Problem reported by D2 "Loss of BMS communication with the CPM config set to stop on loss of communication is taking 20 minutes to switch the unit to stop."
7. All SW(High): Added code to ensure that the new ram variable (sw_status_ram.board_type) that MCS-Connect uses to determine if it is talking to a Nitromag is initialize to zero (#define MAGNUM_OR_MICROMAG 0).
8. Zaid /BSL India reported that in MCS-Connect/Graphics we are not always displaying the alarm pop up after a lockout alarm occurs even though the cfg is set up to do so.
9. Correct issue in hot gas reheat that the AO would not go to zero (it stay at the min opening setpoint value, say 30%) when the supply temp was above the reheat target. IE no reheat required but we were forcing the value to min open. This logic was ok when min open was 0%, but if user makes min open 30%, valve stays open when we do not need any reheat.
10. Correct issue with EXV not closing when using the new tandem oil recovery logic. When one of the Tandem comp is locked out and the other tandem comp is forced off and the exv would stay running. Now the EXv is closed if neither comp is running.
11. Modbus Comms - HVAC & RTU firmware only - Correct issue with the modbus communication to unit and comp sensor fault alarm register. Logic was not calculating the indexes correctly.

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12. As per BWW -> implemented Turbocor Stage Valve control as per Danfoss documentation provided by Eng. Ala'a Abu Shawish (Petra Engineering Industries Co) on 7/16/20.
13. All Firmware Version - Change char display for flow sensor for metric and mixed unit type from "G" to "M", for Meters Per Hour.
14. Allowing STP and SI changes from the keypad when not authorized!!!
fixup!(a5f1e7ae5753e1f813676bddd5c3040a2a137af8) Bug Fix Free up Ram memory:
Eliminate unused ram variables. (Removed total of 1795 bytes).
15. All firmware versions - correct issue with EXV bump logic for Cond level control option.
Cond level control option was backward, it was using same logic as evap level, but it needs to use the same logic as suction superheat. Cond Level control is opposite of evap level.
This bug would allow exv to be bump closed/open when it should not have been. And it would not allow it to bump when it should have bumped.

Released Version 17.36AA

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