



SOFTWARE RELEASE NOTES

MCS-MICROMAG

Version 18.00I

08/13/2018

Updates from previous versions:

New Features:

1. New Feature EXV: Added code to adjust exv by the value in STP146 EXV LOAD ADJ when loading or unloading the CMP AO.
 - Modified existing code to use New STP146 STP146 EXV LOAD ADJ instead of STP133 STPT_EXV_ADJUST minimum adjustment value.
 - Added code to ensure that a compressor AO exists and it is not set to Manual before testing to see if is OK to Bump the EXV.
 - Changed Parameter name for void exv_control function to match function prototype.
 - Future use : Copied ok_to_bump_open_exv & ok_to_bump_close_exv functions from Magnum. (Code is commented-Out so it is not being executed).
2. New Logic: Add new logic for Oil Level. include New Setpoint type Lockout for the Delay and new sensor input on Circuit SI (Oli Level SI). The logic will start when the compressor is running, either by locking at the amps or at the compressor RO, if the sensor is set to ON a delay, based on the time (sec) of setpoint #147, start the countdown. If a setpoint is not set a hard-coded delay of 30 sec goes into effect.

When the delay expires set the unit into lockout and generate a LOW_OIL_LEVEL alarm.
3. New logic: Discharge Psi Heat tape RO: The purpose of the heat tape will be to increase the discharge pressure if it gets too low. see the listed sequence of operation below.
 - 1) Discharge pressure drops below 200 psi. (SI heat_tape_si bit 27 of COMPRESSOR_EEPROM_TYPEDEF and Setpoint 147 in Config)
 - 2) Heat tape relay energizes. (heat_tape_ro bit 36 of COMPRESSOR_EEPROM_TYPEDEF)
 - 3) Discharge pressure rises above 225 psi from heat tape. (this use the psi value of setpoint 147 Value plus setpoint 147 Zone Value)
 - 4) Heat tape relay shuts off.

Any questions regarding this release, contact:
support@mcscontrols.com

Micro Control Systems, Inc. 5580 Enterprise Parkway Fort Myers, Florida 33905
(239)694-0089 FAX: (239)694-0031 www.mcscontrols.com

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4. Add New names for set points 146 Discharge psi heat tape and 147 Oil Level. Also an alarm name for the Low Oil level.

Bug Fixes:

1. The EXV AO was changing every second during adjustments instead of waiting for the delay timer expire. to solve this, I add a flag to indicate when the timer expire then change the AO.
2. Reported that the EXV will never adjust if STP133 (EXV Adjust) was set equal to 90 seconds. The ADJ delay counter will count down to 30 and will reset back to 90 without adjusting the valve.

After connecting with the Debugger I found:

1. The minimum exv delay counter was overflowing because we were passing a short and the counter is defined as a character
2. Every 60 seconds roc_calculation(&static_target_reset_control_structure); will reset the exv_control_structure[0] timer back to 0. The roc_calculation was using memory beyond the memory that was allocated because it was looping one more time that it should.
3. Change the SI pointer from heat tape si to disch pres si, because we already have the Discharge pressure si.
4. Change on Oil Level Logic: improve the counter by using the increment safety trip delay counter() function, Change the rtu lockout() for cmp shutdown() to shut down only the circuit that trip. Also the oil level delay that hold the delay was change to an array per compressor circuit.
5. Change: Replace the Oil Level Logic with the existing check safety() function.
6. On the heat tape logic need to Multiply by 10 the setpoint value to match the decimal point of the sensor.

Release SW version to 18.00 - I

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