Micro Control Systems

APPLICATION NOTE
APP-089

MCS-MAGNUM Firmware Compatibility

Revision History

Date	Author	Description
01/25/14	BWW	Create initial version
02/03/13	BWW	Typos and grammar corrections

MCS-Connect Software

The MCS-Connect software is a Java based program that runs on a Windows based personal computer. MCS-Connect allows the user to access the MCS-Magnum controller to display the inputs and outputs. Also with proper authorization, the user can make changes to parameters.

MCS-Connect software is backwards compatible. Meaning the latest version of MCS-Connect will work with the oldest version of MCS-Magnum firmware.

MCS-Magnum Firmware

The MCS-Magnum firmware is a pre-defined control logic written by MCS that runs only on the MCS-Magnum controller. MCS uses the “C” programming language to write the control logic. The “C” code is then compiled and linked to produce an executable program that runs on the MCS-Magnum controller’s microprocessor. This executable program is distributed in an Intel Hex format (the “Hex” file) which is downloaded into the MCS-Magnum using MCS-Connect.

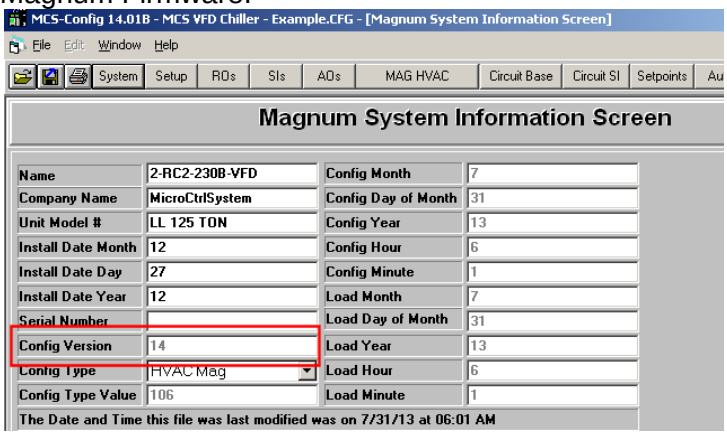
Any version of the MCS-Magnum software can be loaded into any version of the MCS-Magnum controller’s hardware.

MCS-Magnum Config Version

The MCS-Magnum’s “Config Version” defines the format of the CFG files, for example how many outputs, how many inputs, how many setpoints, etc. are contained in the CFG file.

The MCS-Magnum Firmware works with only one specific “Config Version”. The MCS-Magnum firmware checks the “Config Version” and if it is not correct the MCS-Magnum firmware generates the alarm message “INVALID CFG VER” and does not run the control logic.

A CFG file can be open, viewed and edited use the MCS-Config program. The “Config Version” can be seen on the iMCS-Config’s System screen (See screen capture below). Please note you should never change the “Config Version”. This will result in a CFG file that is corrupted. You need to start with a CFG file of the correct “Config Version” to match the MCS-Magnum Firmware.

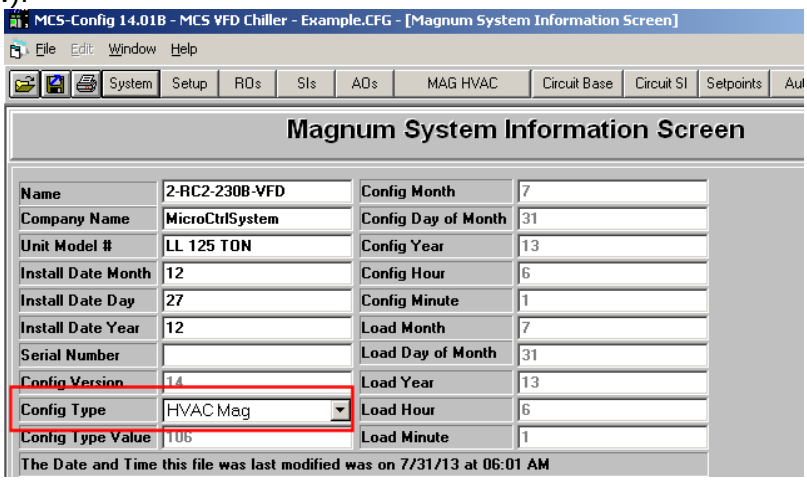


MCS-Magnum Config Type

The MCS-Magnum's "Config Type" defines the application. For example is the unit a chiller (reciprocating, scroll, or screw), or a Loop Water controller, or a centrifugal chiller, or a packaged A/C unit, etc.

The MCS-Magnum Firmware checks the "Config Type" and if it is not supported by the MCS-Magnum firmware an alarm message "INVALID CFG TYPE" is generated and the control logic does not run.

The "Config Type" can be seen on the MCS-Config's System screen (See screen capture below):



MCS-Magnum Firmware to Config Cross Reference Chart

MCS-Magnum Software	Config Version	Config Type
HVAC 6.xx.x	9	HVACMAG = 106 CENTMAG = 119 RTUMAG = 120
HVAC 7.xx-x	9 or 10	
HVAC 8.xx-x	11	
HVAC 9.xx-x	11	
HVAC 14.xx-x	14	