

Micro Control Systems

APPLICATION NOTE

APP-085

How to Setup a MCS-BMS-GATEWAY

Revision History

Date	Author	Description
05/03/13	Michael Schreiber	Created application note

MCS-BMS-GATEWAY is an external, high performance Building Automation multi-protocol gateway that has been preprogrammed to support BACnet MS/TP, Johnson N2, and LonWorks. Configurations for the various protocols are stored within the MCS-BMS-GATEWAY and are selectable via DIP switches for fast and easy installation. It is not necessary to download any configuration files to support the required applications.

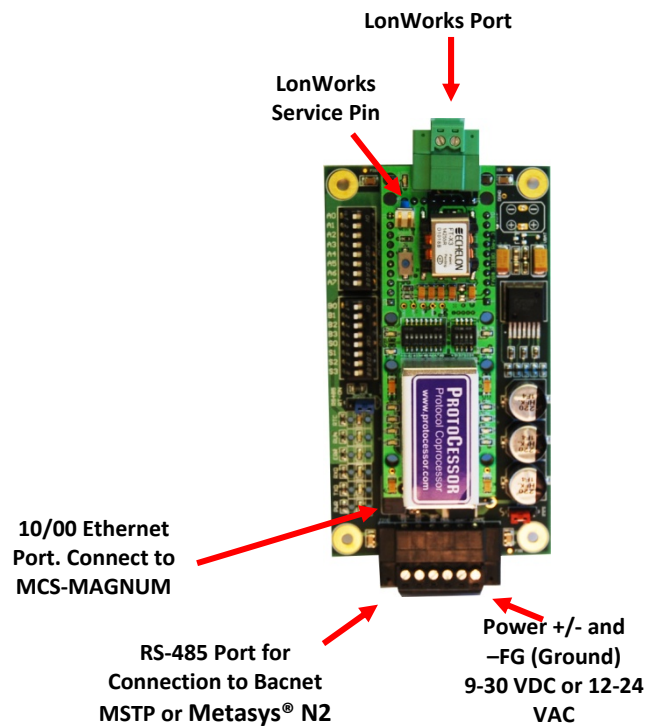
How to Setup the MCS-BMS-GATEWAY:

Three sets of Dip Switches:

A0-A7: Set the Node address/Device Instance on the RS-485. This becomes the MCS-BMS-GATEWAY Address.

B0-B3: Set the Serial baud rate to match the baud rate provided by the Building Management System for BACnet MS/TP. Default is set to auto, to match what customer is using.

S0-S3: Sets the Protocol: BACnet MS/TP, LONTALK, or Johnson N2.

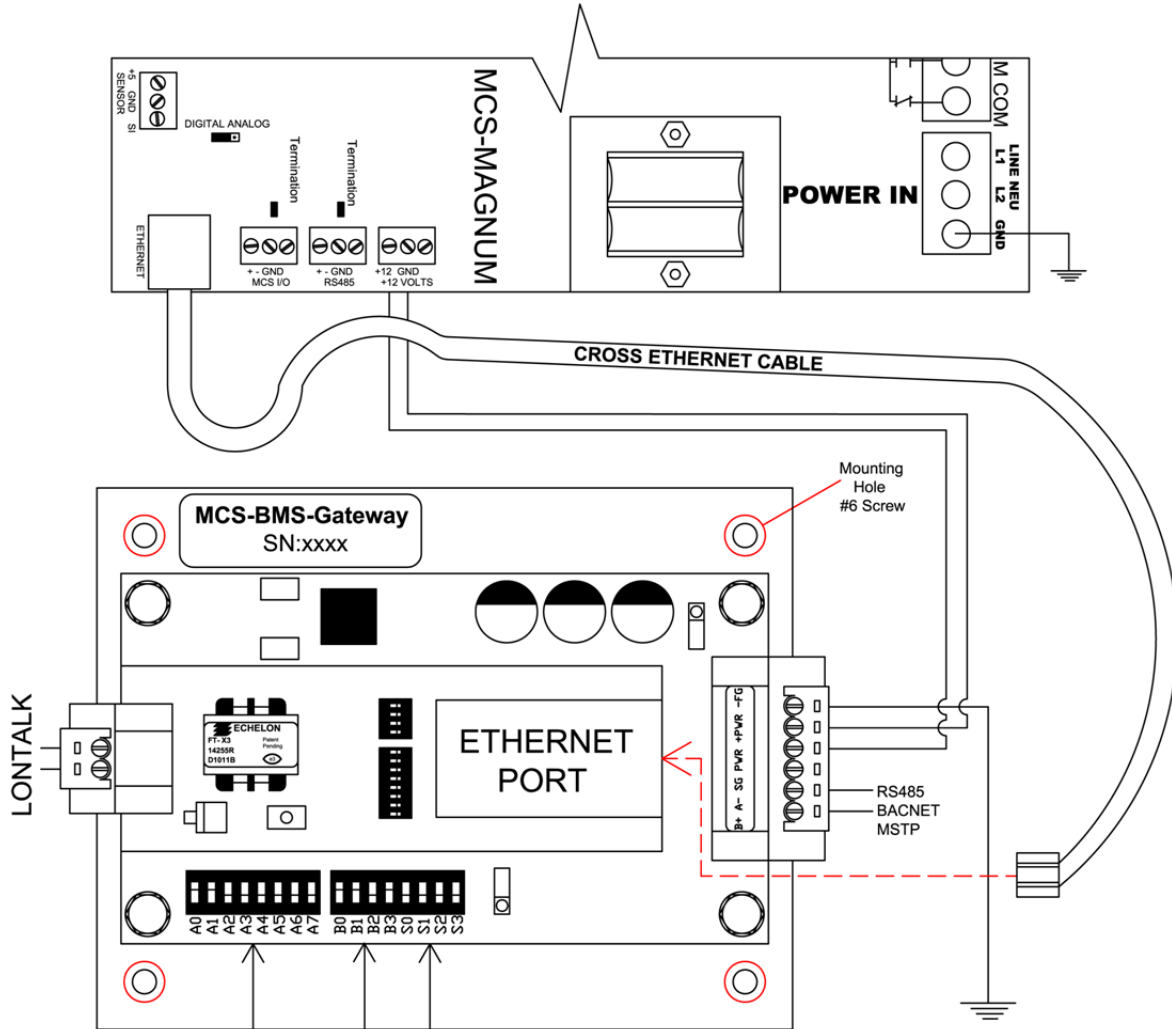


MCS-BMS-GATEWAY

How to wire the MCS-BMS-GATEWAY:

MCS-BMS-GATEWAY
MCS-BMS-GATEWAY to MCS-MAGNUM

Mounting & Wiring Diagram



BMS 485 Address (Bacnet MSTP) See Documentation for Details.

Addressing Values	Value
A0	1
A1	2
A2	4
A3	8
A4	16
A5	32
A6	64
A7	128

The values of the switches in the on position are added together to determine the module's address.

MCS-BMS-Gateway Profile - MCS-BMS-Gateway	MCS-BMS-Gateway DIP Switches			
	S0	S1	S2	S3
LonWorks	Off	Off	Off	Off
Bacnet MS/TP	On	Off	Off	Off
Johnson N2	Off	On	Off	Off

Baud	B0	B1	B2	B3
Auto	Off	Off	Off	Off
9600	On	On	On	Off
19200	Off	Off	Off	On
38400	On	On	Off	On
76800	On	Off	On	On
115200	Off	On	On	On



When wiring MCS-BMS-GATEWAY to MCS-MAGNUM use a crossover Ethernet cable, if wiring a MCS-MAGNUM and MCS-BMS-GATEWAY to a switch uses a straight cable.

Labels on MCS-BMS-GATEWAY:

- The card has 4 labels:
- 1) Serial Number
 - 2) GATEWAY IP Address
 - 3) MAGNUM IP Address
 - 4) MAGNUM (BACnet) Device ID

Lontalk:

Lontalk Only: LonWorks Service Pin – Push this when BMS is scanning.

How to Create CSV Files:

- 1) Open MCS-Config.
- 2) Select the BMS Points button.
- 3) Click on the CREATE MCS-BMS-GATEWAY CSV FILES.
- 4) When you click the CREATE MCS-BMS-GATEWAY CSV FILES, you will be prompted with a Save AS prompt box. The file will be named automatically to match the CFG Name. Save to C-Drive/FieldServer Technologies/FieldServer Utilities/Config.
- 5) MCS-Config will create Four CSV file: Config, BACnet (.bac), Lontalk (.lon), and Johnson N2 (.Jn2).

How to Program the MCS-BMS-GATEWAY with the CSV Files:

- 1) Click the START Button.
- 2) Click the All Programs tab.
- 3) Click the FieldServer Utilities tab.
- 4) Click the Remote User Interface.
- 5) If a screen comes up with a Main Menu view continue to the next step, if a screen comes up with “Update FieldServer date and time to be same as system time? (Y/N)”. Press “Y” for yes, then press any key to continue to the Main Menu view.
- 6) Verify IP Address by selecting (I) this shows the Gateway Address. Change if it does not match.
- 7) Select “D” for Download.
- 8) In the next screen you should see three options: Local and Remote Filename, and Download. Next to Local and Remote Filename, you should have a file with the name config.csv. Select “D” for Download. The screen will read “Download Complete”, then press any key to continue.
- 9) You should now be taken back to the “Download Configuration File” screen. Now select “O” for “Enable <O>ther Files Up and Download.” Press any key to continue.

- 10) Select "L" for Local and you should be prompted with the type Entry at the bottom of the page. Type in the name of the file you are trying to download (ex. Config.csv) then select enter. The file name next to local should have changed to the new entry. (Always add .csv at the end)
- 11) Select "R" for Remote and you should be prompted with the type Entry at the bottom of the page. Retype the name of the file you are trying to download then press enter. (Always add .csv at the end)
- 12) The filenames next to "Local" and "Remote" should be identical. Press "D" for download.
- 13) You should see a prompt on the next screen that reads "Download Complete". Press any key to continue.
Repeat this step for the 3 CSV Files (.bac, .Icn, and .Jn2) of your CSV files.
- 14) Once you have downloaded all your files press "Esc" to be taken back to the main menu. While in the main menu press and hold the SHIFT key. While **Holding** the SHIFT key press the number 1 or !.
- 15) You should now see a prompt that says "Field Server Bust Restarting . . ."
- 16) If a screen comes up with a Main Menu view continue to the next step, if a screen comes up with "Update FieldServer date and time to be same as system time? (Y/N)". Press "Y" for yes, then press any key to continue to the Main Menu view.
- 17) The final step is to verify you have no errors. Once your back to the Main menu press "E" for errors.
- 18) You should have a "No errors" prompt. The download process is now complete.

Common Communication Problems:

Verify MAGNUM BACnet Device ID and MAGNUM IP match the labels on the BMS-GATEWAY card.