Partner: Mitsubishi
Model: G50
Device Type: Multi-Zone HVAC

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Mitsubishi G50 Master v1.1
CATEGORY:	HVAC
VERSION:	v1.1
SUMMARY:	This module works in conjunction with the Mitsubishi Group module to control a Mitsubishi G50 Centralized Controller via IP. This module processes all feedback from the G50 and distributes the status to each Mitsubishi Group module individually. Up to 50 Group modules can be connected. All of the Group modules will send commands to this Master module, which will then transfer those to the G50 via IP.
GENERAL NOTES:	All of the Mitsubishi air handlers, or Units, along with the Mitsubishi Centralized Controller (G50) communicate with each other via their M-Net Bus, which is Mitsubishi's proprietary network. The G50 is our gateway to the Mitsubishi Units. We communicate with the G50 via Ethernet, while the G50 communicates to all of the Mitsubishi Units via M-Net. All Mitsubishi devices communicating to each other via the M-Net Bus are speedy. There is latency, however, between the G50 and Crestron interface via Ethernet. This latency consists of 12s needed for the G50 to process and respond to an operation or monitoring command that it receives. This time period is not affected by the amount of Mitsubishi Units used in the system (this 12s delay will always occur whether there are 50 units or 1 unit on the M-Net Bus). Any other commands sent to the G50 during this 12s processing period will be ignored and dropped, as there is no internal buffering present in the G50 to store commands.

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So if a command is sent to a Mitsubishi Unit via the G50 using Crestron external control the Unit itself may receive the command and update quickly, while the external control will provide confirmation 12s later. Although the length of this timeout cannot be decreased, these modules will address the issue by queuing any requested functions and sending as a batch command after the previous operation or monitoring command ACK or response is received. If numerous commands are sent, the absolute maximum delay expected is 40s between the last request via input signal to the module and receiving accurate feedback from all 50 Group definitions in the system.

This module was tested with the Mitsubishi AG150. Mitsubishi uses the same protocol for their Centralized Controller units. This module should also work on the following models:

- GB50
- GB24
- G50

CRESTRON HARDWARE REQUIRED:	C2NENET-1, C2NENET-2, 3-Series processor
SETUP OF CRESTRON HARDWARE:	Note: This module uses direct socket in Simpl+ and does not require a TCP/IP Client definition in SimplWindows.
VENDOR FIRMWARE:	V2.30 (DB No. 01)
VENDOR SETUP:	G50 MUST be set to report Fahrenheit, not Celsius.
CABLE DIAGRAM:	N/A

CONTROL:

Enable_Poll	D	Latch high to enable polling of all assigned groups in the G50 every 15s.
From_Modules	S	Serial signals received from any Mitsubishi G50 Group module's "To_Master" serial output signal.

FEEDBACK:

To_Module_*	S	Serial output signal to be sent to the Mitsubishi Group module assigned to this output signal. The "Module_*_Group_Number" parameter for this output signal must be the same group number assigned to the Group module receiving this signal.
Client_Status_Text	S	Text field indicating the IP connection status. Should indicate a connect and reconnect every 12-15 seconds if polling is enabled.

PARAMETER:

Module_*_Group_Number	P	The group number assigned to the Group module that will received the feedback string from output signal "To_Module_*". If it is not being used, it must be set to Not Assigned.

TESTING:

OPS USED FOR TESTING:	v4.003.0015
SIMPL WINDOWS USED FOR TESTING:	4.03.20
DEVICE DB USED FOR TESTING:	54.05.005.00
CRES DB USED FOR TESTING:	73.00.001.00
SYMBOL LIBRARY USED FOR TESTING:	983
SAMPLE PROGRAM:	Mitsubishi G50 v1.1
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Incorporated 3-series best practices in all Simpl+.