**Description**

The MCS-MAGNUM is a durable microprocessor based controller designed for the hostile environments in the HVAC/R industry. It is designed to be the primary manager of the package it is controlling.

The Magnum provides flexibility with setpoints and control options that can be selected prior to commissioning a system or when the unit is live and functioning. Displays, alarms and other interfaces are accomplished in a clear and simple language that informs the user as to the status of the controller.

The MCS-MAGNUM-PANL consists of a master micro controller along with a keypad and display. Complementing the Magnum micro controller are the MCS-RO10 and MCS-SI16-AO4 expansion boards. This allows for system expansion to a maximum of 112 inputs and 108 outputs. Communication with these units occurs at 38,400 baud over the MCS-I/O port, which is dedicated to this purpose.

A RS-485 port is also provided for communication with other manufacturers systems. Other new features include the integration of BACnet IP, Modbus IP and Modbus RTU into the Magnum. 

**MCS-BSMS-GATEWAY** is also available that allows communication via BACnet MSTP and LonWorks, or the data format is available to allow the user to communicate directly.

MCS-MAGNUM-PANL ships with MCS-MOUNT KIT which includes 8 #6 sheet metal screws, 5 Standoffs and 1 Lexan Cover.

A complete software support package is available for your PC, allowing for system configuration, dynamic on-line display screens, remote communication, graphing and more.

**Specifications**

**Controller**
- Dimensions: 12.0”w, 8.0”h, 2.0”d
- Mounting Holes: Mounts on a backplane using four #6 (6-32) sheet metal screws
- Operating Temperature: -40°F to +158°F (-40°C to +70°C)
- Operating Humidity: 0-95% Non-Condensing
- Storage Temperature: -40°F to +158°F (-40°C to +70°C)
- Microprocessor: Zilog eZ80 Acclaim! @ 50mhz
- Sensor Inputs (SI): 12 inputs 0-5vdc (10-bit A/D)
- Digital Inputs: 4 inputs 0 or 5vdc only
- Relay Outputs (RO): 10 outputs 6.3amps @ 230vac
- Analog Outputs (AO): 4 outputs 0-10vdc
- Printed Circuit Board: Six layer with separate power and ground planes
- Input Power (Standard): 115 or 230vac ±10% 50/60Hz @ 77°F (25°C) ambient, 20VA max (Voltage is field selectable)
- MCS-I/O Comm Port: 1 @ 19,200 baud
- RS-485 Comm Port: 1 @ 19,200 baud
- Ethernet: 10/100 Mbps Ethernet
- Real Time Clock: Battery backup
- Power Detection: Automatic power fail reset

**Keypad/LCD**

NEMA rated Type 1
- Display: 128 x 64 dot pixel STN monochrome graphics LCD with 2.8” diagonal viewing area
- Color: White characters on a blue background (Reversible)
- Keypad Size: 7.25”w x 8.50”h (4 mounting studs)
- Keypad Layout: 9 keys (3 function keys)
- Connection: 6 conductor shielded cable (max length of cable is 10 feet)
- RS-485 Comm Port: 1 @ 19,200 baud
- Operating Temperature: -4°F to +158°F (-20°C to +70°C)
- Operating Humidity: 0-95% Non-Condensing
- Storage Temperature: -22°F to +158°F (-30°C to +80°C)

**Options**
- 24 ........... 24vac input power ±10% 50/60Hz @ 77°F (25°C) ambient
- 232 ........... RS-232 port on back of Keypad

**Accessory Parts**

- MCS-RS485-EXTENDER: Cable for extending RS485 port to front of control cabinet
- MCS-RS232-EXTENDER: Cable for extending RS232 port to front of control cabinet