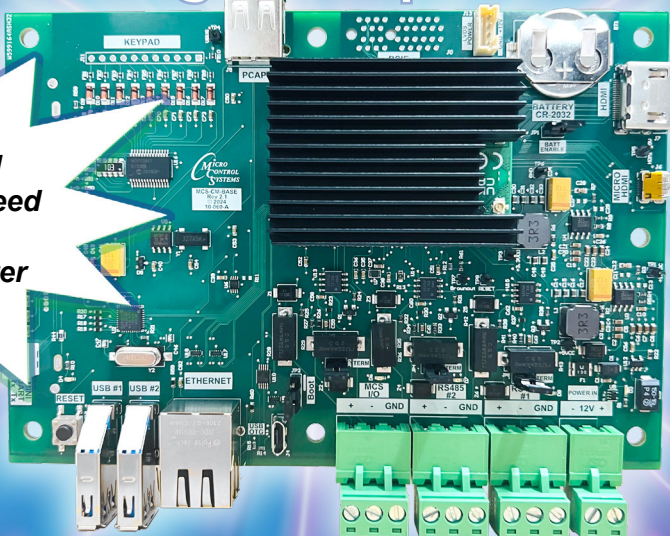


UL recognized product¹

MCS-NitroMag-N

MCS-NitroMag - Microprocessor @ 1.5GHz

**The NEW
MCS-NitroMag-N
built for blazing speed
features WiFi
Modbus RTU Master**



**New
Generation of
MCS-MAGNUM
"Smaller
Footprint"**



MCS-NITROMAG-OEM



MCS-NITROMAG-15.4

MCS-NitroMag-N Features

- Maximum of 144 SI inputs, 90 RO outputs, and 36 AO outputs.
(Expansion boards required).
- Built in WiFi - 2.4 GHz, 5.0 GHz.
- 2 HDMI ports (1 Standard & 1 Micro).
- Two user defined RS-485 Ports up to 115200 baud rate.
- Ethernet -10 Mbps/100 Mbps/1Gbps.
- Modbus RTU Master - Supports up to 20 Modbus devices e.g., VFD's KW Meter, Compressors.
 - Native BACnet IP, BACnet MSTP, Modbus IP, Modbus RTU slave
- NEMA4/IP66 Keypad or Touchscreen available.

¹UL 60730-1, Automatic Electrical Controls - Part 1: General Requirements, Edition 5, Revision Date 10/18/2021

CAN/CSA E60730-2-9, Automatic Electrical Controls - Part 2-9: Particular Requirements for Temperature Sensing Controls, Edition 4, AMD 2, Revision Date 02/2024

UL 60730-2-9, Automatic Electrical Controls - Part 2-9: Particular Requirements for Temperature Sensing Controls, Edition 4, Revision Date 08/05/2021

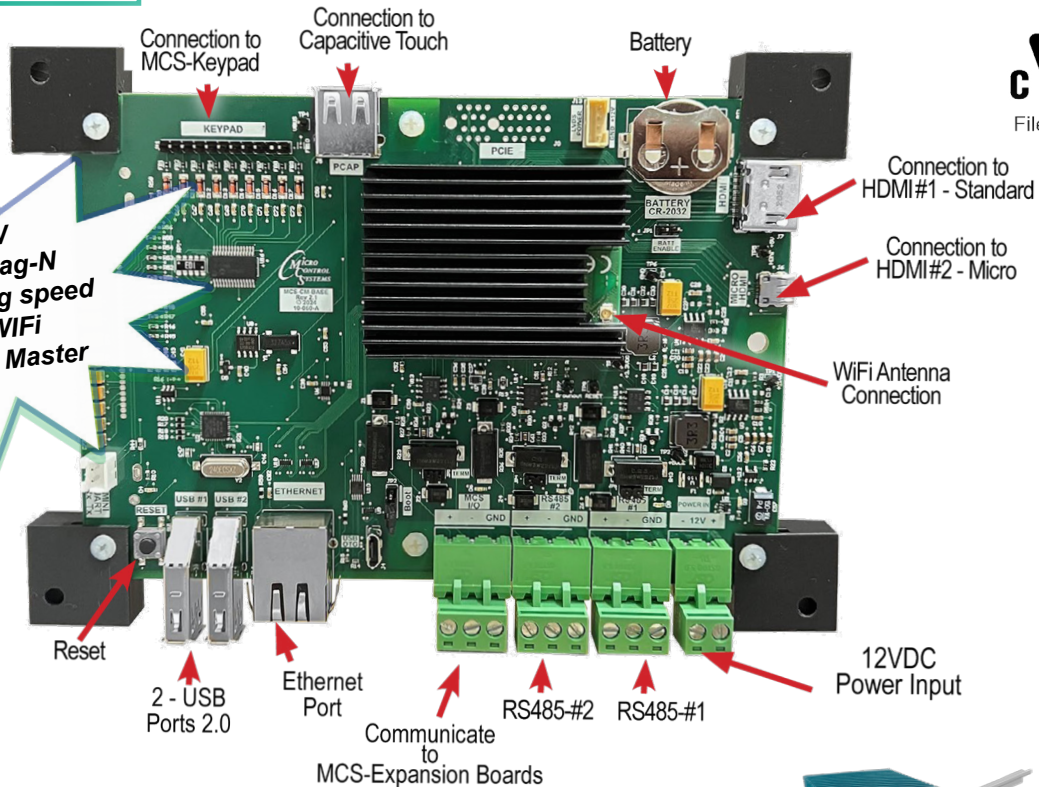
CSA E60730-1, Automatic electrical controls - Part 1: General requirements, Edition 5, AMD 2, Revision Date 10/2021



MCS-NitroMag Controllers



The NEW
MCS-NitroMag-N
built for blazing speed
features WIFI
Modbus RTU Master



MCS- Power Supply

88 VAC to 264 VAC
Ac/Dc Enclosed Switching Power Supply
12Volts @ 7.5Amps



MCS-NitroMag-OEM



MCS-NitroMag-DOOR



MCS-NitroMag-PANEL

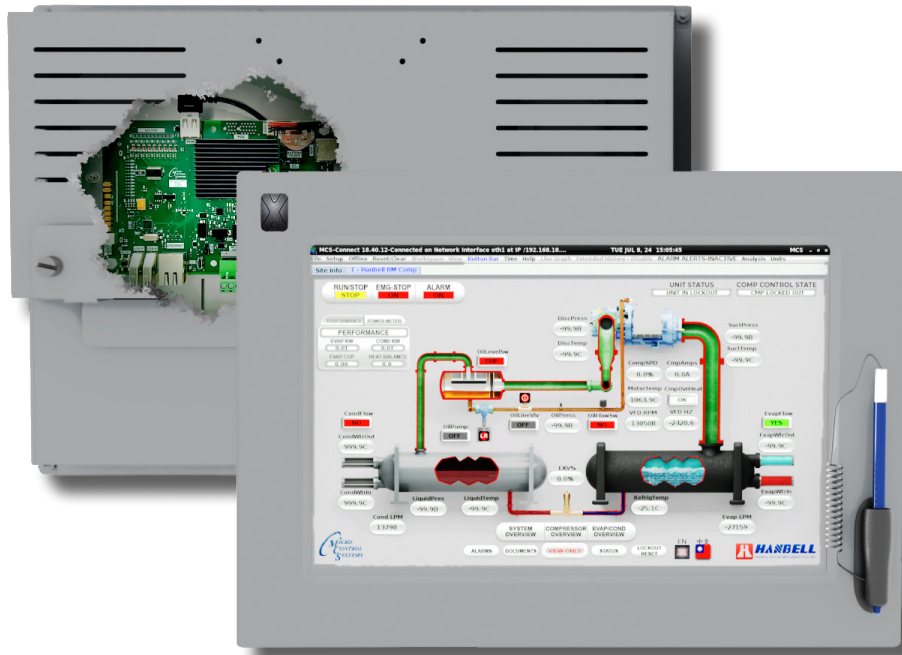


MCS-NitroMag-DOOR-NEMA4

Microprocessor- Blazing Speed @ 1.5GHz



MCS-NitroMag Touchscreen Display



Part # MCS-NitroMag-15.4

MCS-NitroMag-15.4 is a control system containing a Capacitive Touchscreen, and a **MCS-NitroMag-N** controller. It includes a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor on the MCS-NitroMag-N delivers a blazing speed of 1.5GHz.

MCS-NitroMag-N Features

- Maximum of 144 SI inputs, 90 RO outputs, and 36 AO outputs.
(Expansion boards required).
- Built in WiFi - 2.4GHz, 5.0GHz.
- 2 HDMI ports (1 Standard & 1 Micro).
- Two user defined RS-485 Ports up to 115200 baud rate.
- Ethernet -10Mbps/100Mbps/1Gbps.
- Modbus RTU Master - Supports up to 20 Modbus devices e.g., VFD's KW Meter, Compressors.
 - Native BACnet IP, BACnet MSTP, Modbus IP, Modbus RTU slave

Microprocessor- Blazing Speed @ 1.5GHz

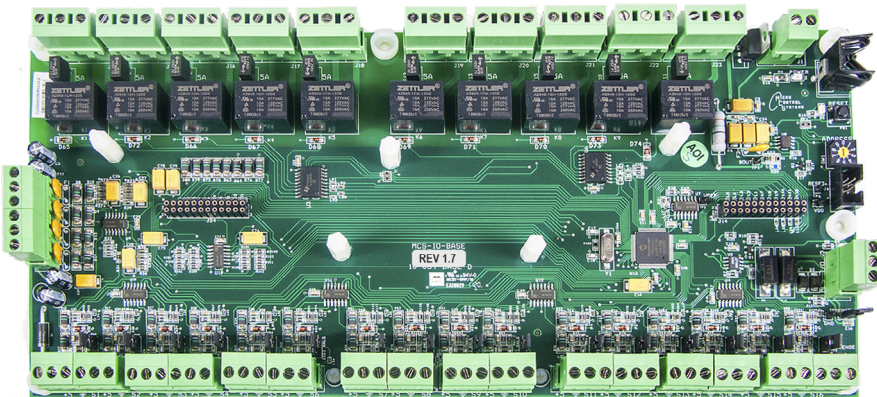


MCS-NitroMag Stackable Expansion Boards

Doubles your Inputs and Outputs in the same footprint

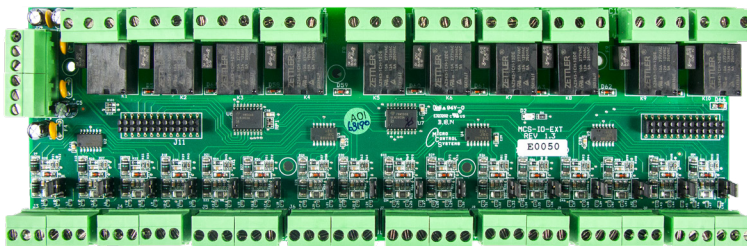


MCS-IO-BASE AND MCS-IO-EXT



MCS-IO-BASE

Sensor Inputs 16 inputs 0-5vdc
Analog Outputs..... 4 outputs 0-10VDC
Relay Outputs..... 10 outputs
5amps @ 230VAC
Input Power (Standard) 12VDC Regulated
power supply
MCS-I/O Comm Port 1 @ 38,400 Baud
Printed Circuit Board - Four layer with separate
power & ground planes



MCS-IO-EXT

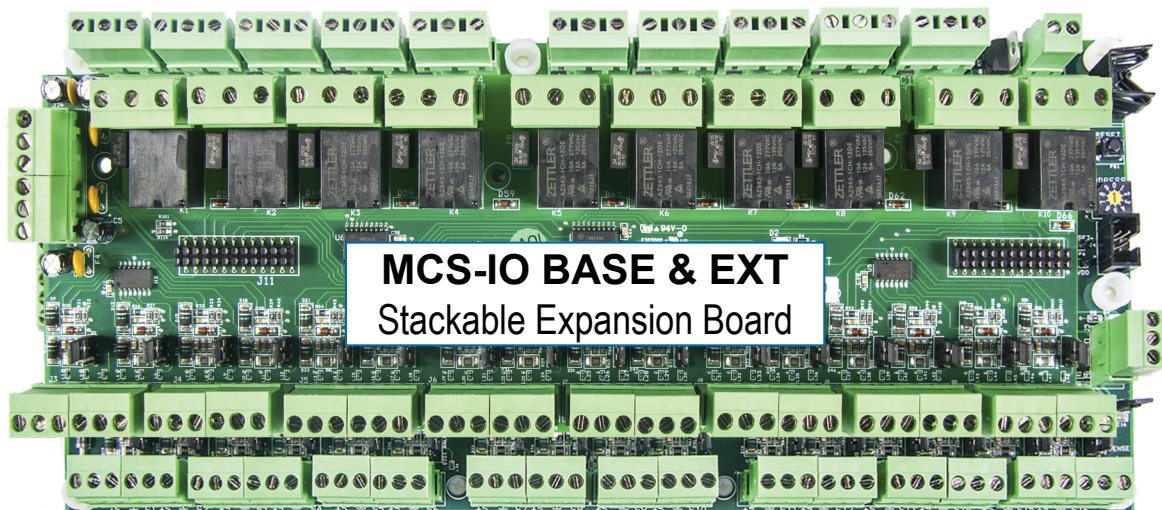
Mounts on top of the MCS-IO-BASE by 5 nylon
standoffs and 2 stacker headers (included on
MCS-IO-BASE)

Sensor Inputs..... 16 inputs 0-5vdc
Analog Outputs..... 4 outputs 0-10VDC
Relay Outputs..... 10 outputs
5amps @ 230VAC

Input Power (Standard)
Powered by MCS-IO-BASE

Compatible with MCS-NitroMag

- ◆ No power transformer on the board means smaller and lighter boards.
- ◆ Backward compatible, version 7 to current version 19.
- ◆ Backward compatible - software, MCS-CONFIG and MCS-CONNECT.



+12 system is less costly to build

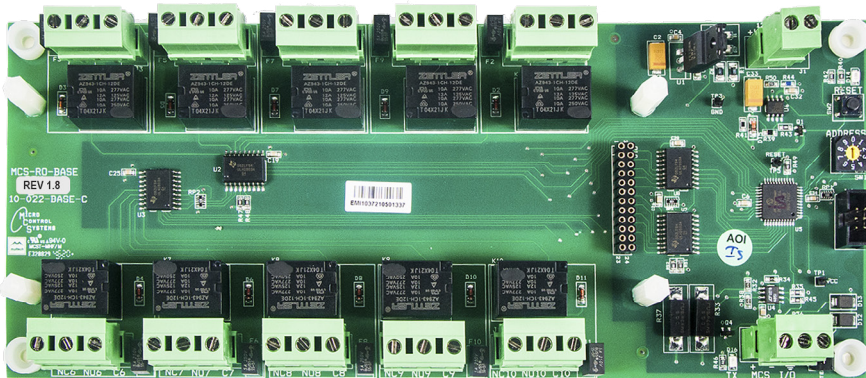


MCS-NitroMag Stackable Expansion Boards

Doubles your Inputs and Outputs in the same footprint

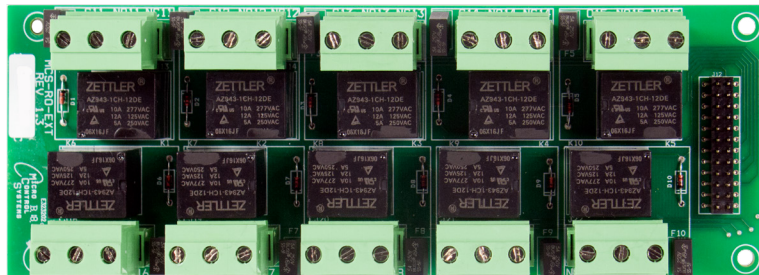


MCS-RO-BASE AND MCS-RO-EXT



MCS-RO-BASE

Relay Outputs..... 10 outputs
(5amps @ 230VAC)
Input Power (Standard) 12VDC Regulated
power supply
MCS-I/O Comm Port 1 @ 38,400 Baud
Printed Circuit Board - Four layer with separate
power & ground planes



MCS-RO-EXT

Mounts on top of the MCS-RO-BASE by 5 nylon
standoffs and 2 stacker headers (included on
MCS-RO-BASE)

Relay Outputs..... 10 inputs
(5 amps @ 230VAC)
Input Power (Standard)
Powered by MCS-RO-BASE
Printed Circuit Board - Four layer with separate
power & ground planes

Compatible with MCS-NitroMag

- ♦ No power transformer on the board means smaller and lighter boards.
- ♦ Backward compatible, version 7 to current version 19.
- ♦ Backward compatible - software, MCS-CONFIG and MCS-CONNECT.



+12 system is less costly to build

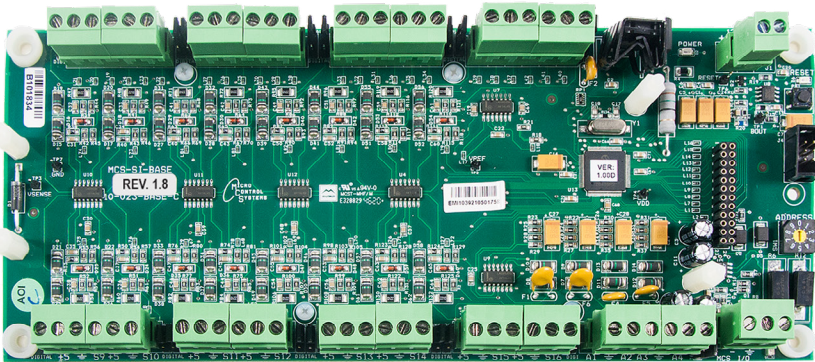


MCS-NitroMag Stackable Expansion Boards

Doubles your Inputs and Outputs in the same footprint

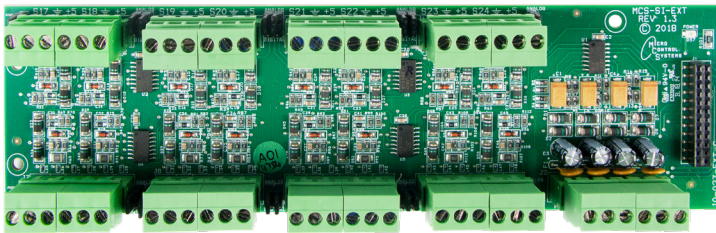


MCS-SI-BASE AND MCS-SI-EXT



MCS-SI-BASE

Sensor Inputs 16 inputs 0-5vdc
Analog Outputs..... 4 outputs 0-10VDC
Relay Outputs..... 10 outputs
5amps @ 230VAC
Input Power (Standard) 12VDC Regulated
power supply
MCS-I/O Comm Port 1 @ 38,400 Baud
Printed Circuit Board - Four layer with separate
power & ground planes

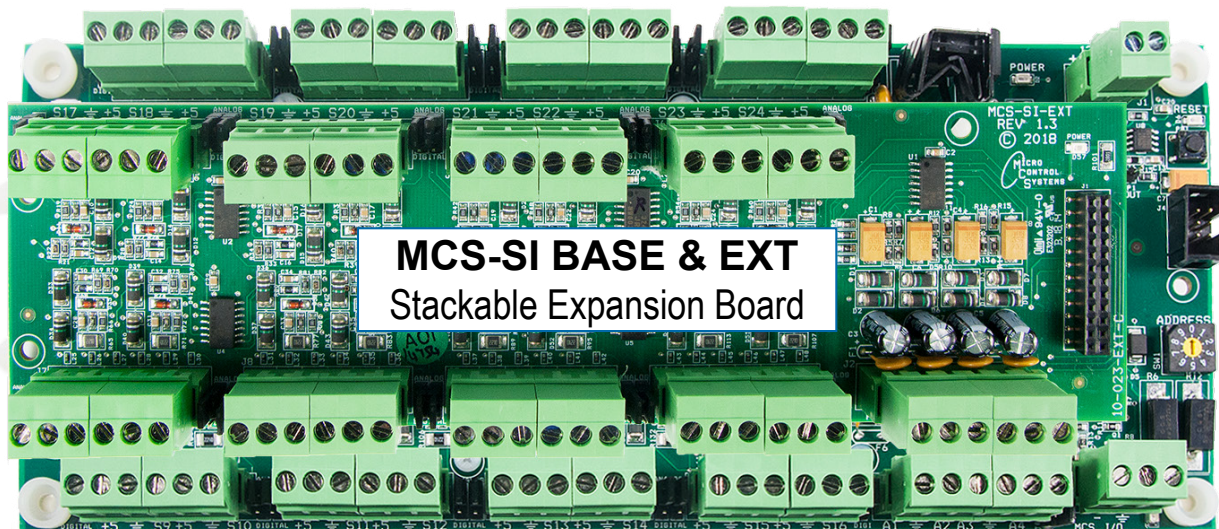


MCS-SI-EXT

Mounts on top of the MCS-SI-BASE by 5 nylon
standoffs and 2 stacker headers (included on
MCS-SI-BASE)
Sensor Inputs..... 16 inputs 0-5vdc
Analog Outputs..... 4 outputs 0-10VDC
Relay Outputs..... 10 outputs
5 amps @ 230VAC
Input Power
Powered by MCS-SI-BASE Power

Compatible with MCS-NitroMag

- ◆ No power transformer on the board means smaller and lighter boards.
- ◆ Backward compatible, version 7 to current version 19.
- ◆ Backward compatible - software, MCS-CONFIG and MCS-CONNECT.



+12 system is less costly to build

FEATURES	MCS-NitroMag-N	MCS-MAGNUM-N
PROCESSOR SPEED	✓ @1.5 GHz	✗ @50MHz
INPUTS & OUTPUTS (TOTAL NUMBER SUPPORTED)	✓ 144 SI INPUTS 90 RO OUTPUTS 36 AO OUTPUTS	✗ 112 SI INPUTS 80 RO OUTPUTS 28 SO OUTPUT
WiFi	✓ Built in support	✗
HDMI PORTS	✓ Built in support (2) ports	✗
USB PORTS	✓ (2) ports	✗
RS485 PORTS	✓ (2) ports	✗ (1) port
ETHERNET	✓ 10 Mbps 100 Mbps 1 Gbps	✗ 10/100 Mbps
MODBUS MASTER	✓ *Built in support up to (20) Devices	✗ Requires (1) MCS-Modbus-I/O for each Device(slave)
BMS NETWORK CONNECTIVITY	✓ ** Built in support	✗ Requires MCS-BMS-GATEWAY
FLASH MEMORY	✓ 16 GB EMMC	✗ 8 MB Flash
RAM (Random access memory)	✓ 2 GB DDR3	✗ 2MB Static Ram

*MCS-NitroMag-N - Modbus RTU Master

**Protocols - BACnet IP, BACnet MSTP, Modbus IP, Modbus RTU Slave(N2 coming soon)
(LonTalk requires MCS-BMS-GATEWAY,)

Microprocessor- Blazing Speed @ 1.5GHz

The MCS Commitment

The founders of Micro Control Systems Inc. have been in the manufacture of Microprocessor Controls their entire careers and have over eight decades of combined HVAC/R Microprocessor Controls experience. MCS was founded to meet the needs of the Utility and HVAC/R Industries with products based on the following design criteria:

- ◆ **Quality & Service**
- ◆ **Cost Effectiveness**
- ◆ **Ease of Use**

Our commitment is to provide practical solutions for the industries needs and to be both a leader and partner in the effective use of Microprocessor Controls.



Visit our web site at:
www.mcscontrols.com
For more information send email
to: sales@mcscontrols.com

Directions

- ◆ Interstate 75 to exit 139, West on Luckett Road
- ◆ Right at 1st light into Billy Creek Commerce Center
- ◆ Bear right with Enterprise Parkway
- ◆ Follow Enterprise as it parallels Interstate 75

5580 Enterprise Pkwy. Fort Myers, FL 33905
Office: (239) 694-0089 Fax: (239) 694-0031



Providing HVAC/R Solutions
Worldwide