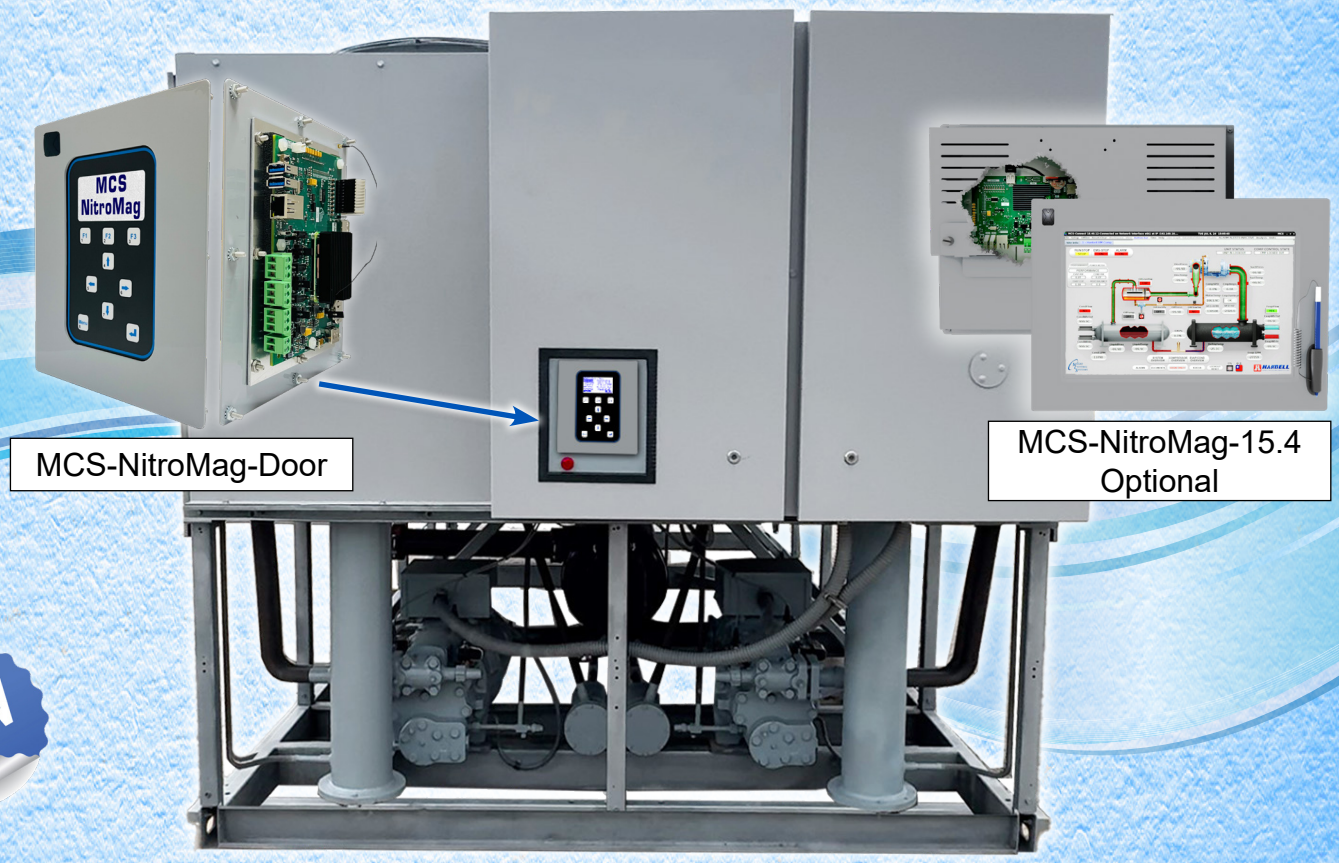
MICRO CONTROL SYSTEMS

# MCS Total Solutions for all your HVAC/R Control Needs




NEW

# MCS-Nitromag Upgrade Brochure

# RTAA Chiller

Click for Brochure Upgrades▶

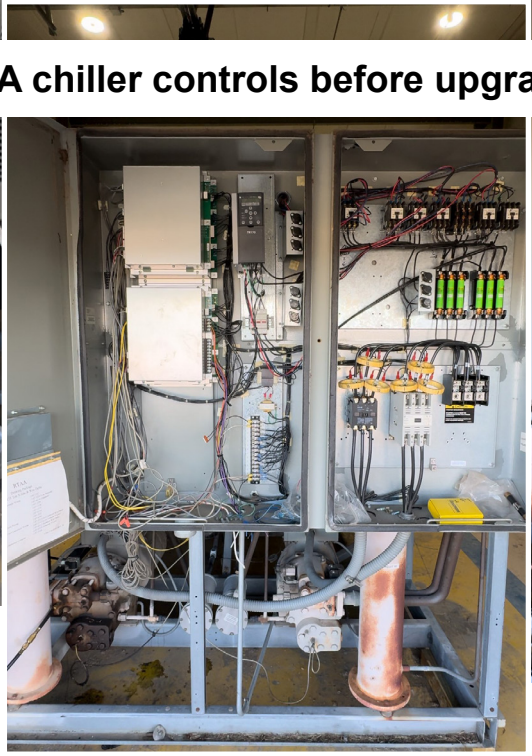
This brochure describes a standard upgrade package for the CHILLER.

Each control upgrade installation is unique. It may be necessary to add additional options to the standard upgrade as described in this brochure.

Fill out the brief questionnaire in the back of this brochure and forward to your sales representative for an estimate.

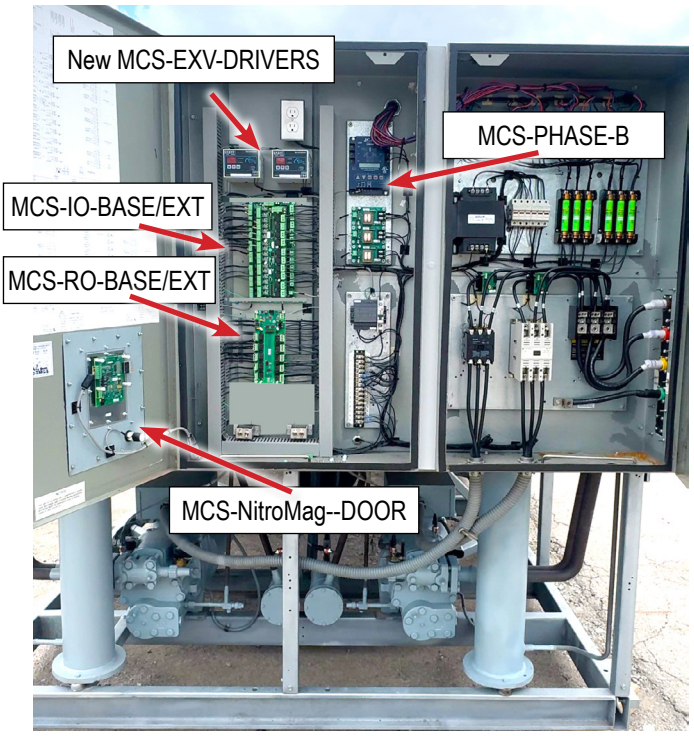
Revision - 2025-08-21

# Example MCS-NitroMag Upgrade Photos



RTAA chiller controls before upgrade


## RTAA with MCS control upgrade using MCS-NitroMag-DOOR

# MCS-NitroMag-DOOR
## Description & Specifications

File No: E169780

RoHS Compliant


**Part # MCS-NitroMag-DOOR**

## Description

The **MCS-NitroMag-DOOR** is a control system containing a Keypad, a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor delivers a blazing speed of 1.5GB.

The **MCS-NitroMag-DOOR** features an easy-to-use keypad with three function keys, four directions keys and two selection keys (Menu & Enter).

The display LCD is 128 x 64 dot pixel graphics, 2.8" diagonal viewing area with White characters on a dark background (reversible). Includes a NEMA Type 1 faceplate for easy mounting to an enclosure door.

The MCS-NitroMag-DOOR controller allows for 144 SI inputs, 90 RO outputs, and 36 AO outputs. (Expansion Boards required).

It comes with a built-in WiFi interface for Ethernet connectivity, and an onboard WiFi antenna mounted on the front.

Includes a **Modbus interface** which enables it to act as a Modbus Master using the Modbus RTU protocol, which allows communication with Modbus slave devices for parameter access.

***It features various connection ports for:***

- 2 HDMI ports (1 Standard & 1 Micro)
- WiFi antenna connection
- 12vdc power input connection
- Ethernet port (10 Mbps/100 Mbps/1Gbps)
- Two RS-485 Ports up to 115200 baud rate
- MCS-IO port for communicating with expansion boards

## Specifications

### Keypad Door

Dimensions.....7.25"w x 8.50"h 1.42"d
(184.15 mm x 215.9 mm x 36.17 mm)
Mounts using supplied #6-32 Kep nut

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 .....5.26"w x 8.50"h (8 mounting studs)

Keypad Layout.....9 keys (3 function keys)

Operating Temperature....-4°F to +185°F (-20°C to +85°C)

Operating Humidity.....0-95% Non-Condensing

### Controller

Microprocessor..... Broadcom BCM2711 quad core Cortex (ARMv8) 64-bit SoC @ 1.5Ghz

| INPUT | MINIMUM | NOMINAL | MAXIMUM |
|---|---|---|---|
| VOLTAGE | 10 | 12 | 12.5 |
| AMPS | | | 0.5 |

Flash Memory ..... 16 GB EMMC
RAM ..... 2 GB DDR3
MCS-I/O Comm Port. ..... 1 @ 38,400 baud
RS-485 Ports. ..... 2 @ go up to 115200 baud rate
Ethernet..... 10 Mbps/100Mbps/1Gbps
HDMI ..... 2 HDMI 2.0 ports-Standard and Micro
WiFi .....2.4 GHz, 5.0GHz 8.02 b/g/n/ac wireless
USB ..... 2 USB type B 2.0 ports 480Mbps signalling
Protocols..... .BACnet IP, BACnet MSTP, Modbus IP, Modbus RTU Slave, Modbus RTU Master (BTL certification pending)

Real Time Clock .....Battery backup(Type BR2032)

Power Detection .....Automatic power fail reset

### POWER SUPPLY NOT INCLUDED

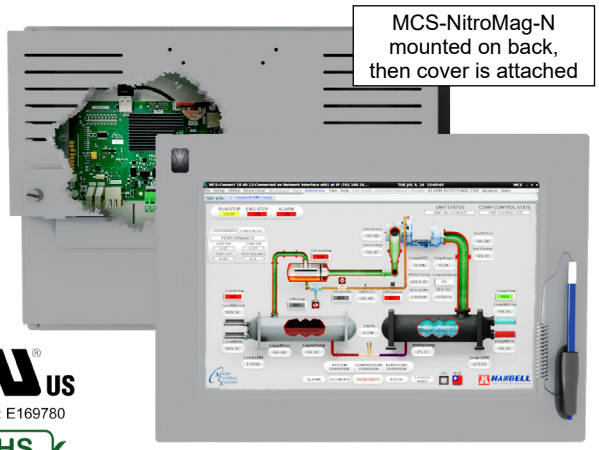
Ship Weight ..... 2.00 lbs (approx)

Box Dimensions..... 9" x 6-1/2" x 2-3/4" (approx)

5580 Enterprise Pkwy., Fort Myers, FL 33905
Office: 239-694-0089 • Fax: 239-694-0031 www.mcscontrols.com

Revision - 2025-07-01

# MCS-NitroMag-15.4
## Description & Specifications




File No: E169780

RoHS Compliant

**Part # MCS-NitroMag-15.4**

## Description

The **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.

The MCS-NitroMag-N controller connects with MCS Expansion boards and Extension boards, allowing for a maximum of 144 SI inputs, 90 RO outputs, and 36 AO outputs.

The Capacitive touchscreen interface designed to simplify user access with the MCS Expansion Boards and utilizing MCS-Connect to provide both graphics and service mode access to technicians. Highly accurate and does not require calibration - easy to clean glass surface. Works outdoors, bright screen, water resistant, Exceptional Optics - 1280x800 resolution, sharp and vibrant images.

MCS-NitroMag-15.4 comes pre loaded with the MCS-CONNECT program that allows you to view the 'unit's status', 'extended history', 'alerts', 'alarms', setpoints, and more, all in a user-friendly graphic format.

The MCS-NitroMag-15.4 comes with a built-in WiFi interface for Ethernet connectivity, and an onboard WiFi antenna connection mounted on the front of the touchscreen.

It features various connections ports for:

- 2 HDMI ports (1 Standard and 1 Micro port)
- WiFi antenna connection
- 12vdc power input connection
- Ethernet port (10 Mbps/100 Mbps/1 GHz)
- MCS-IO port for communicating with expansion boards.

Includes a MODBUS interface which enables it to act as a Modbus Master using the Modbus RTU protocol, allowing communication with Modbus slave devices for parameter access.

## Specifications

Dimensions ..... 17"L x 12.11"W x 3.228"H
432mm L x 308mm W x 82mm H

Mounting
- Door Mount. .....Template included
- 10 mount studs thru customers enclosure.
- MS4745 silicone gasket
- NEMA 4 IP66 rated
- Indoor or outdoor (Mounted in Nema4 Enclosure)

VESA Mount ..... 75 x 75 or 100 x 100 mm (indoor only)

LCD Screen. ..... 15.4" (16:10 Diagonal)
- 16.2 Million Colors
- 1280x800 Resolution
- View Angle 70°U, 70°D, 70°L, 70°R
- Capacitive Stylus pen
- White LED Backlight (Min Life 50,000 Hrs)
- Luminance Min. 350 Min. 450 Typical

Touchscreen Surface..... UV Degradation Protection
Operating Temperature..... -22°F to 176°F (-30°C to +80°C)
Operating Humidity.....90 %RH (Non Condensing)
Storage Temperature..... -22°F to 176°F (-30°C to +80°C)

## Controller

Microprocessor ..... Broadcom BCM2711 Quad core
Cortex (ARMv8) 64-bit SoC @ 1.5Ghz

| INPUT | MINIMUM | NOMINAL | MAXIMUM |
|---|---|---|---|
| VOLTAGE | 10 | 12 | 12.5 |
| AMPS | | | 2 |

Flash Memory ..... 16 GB EMMC
RAM ..... 2 GB DDR3
MCS-I/O Comm Port. ..... 1 @ 38,400 baud
RS-485 Ports. ..... 2 @ go up to 115200 baud rate
Ethernet ..... 10 Mbps/100Mbps/1Gbps
HDMI ..... 2 HDMI 2.0 ports-Standard and Micro
WiFi ..... 2.4 GHz, 5.0GHz 8.02 b/g/n/ac wireless
USB ..... 2 USB type B 2.0 ports 480Mbps signalling
Protocols ..... BACnet IP, BACnet MSTP, Modbus IP,
Modbus RTU Slave, Modbus RTU Master
(BTL certification pending)

Real Time Clock ..... Battery backup(Type BR2032)
Power Detection ..... Automatic power fail reset

**POWER SUPPLY NOT INCLUDED**

## Packaging

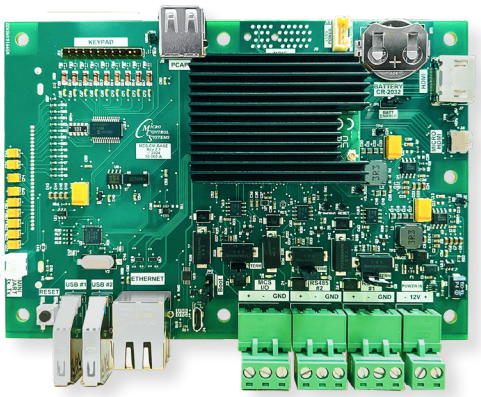
Ship Weight.....2.00 lb (approx)

Box Dimensions..... 20-1/8" x 15-1/8" x 6-1/2" (approx)

5580 Enterprise Pkwy., Fort Myers, FL 33905
Office: 239-694-0089 • Fax: 239-694-0031 www.mcscontrols.com

Revision - 2025-07-30

# Example Typical Upgrade with Optional Boards



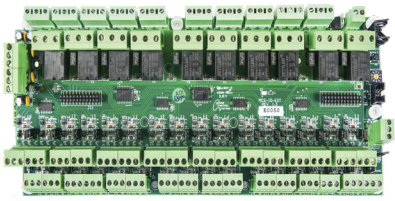
## MCS-NitroMag-N

The **MCS-NitroMag-N** is a control system containing a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor delivers a blazing speed of 1.5GHz.

The MCS-NitroMag-N controller connects with MCS Expansion boards and Extension boards, allowing for a maximum of 144 SI inputs, 90 RO outputs, and 36 AO outputs.

The MCS-NitroMag-N comes with a built-in WiFi interface for Ethernet connectivity, and an onboard WiFi antenna connection.

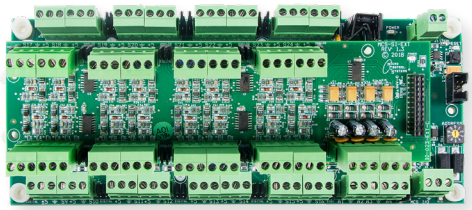
## MCS-IO-Base & MCS-IO-EXT



MCS-IO-BASE has a stand-alone microprocessor which communicates with a MCS-NitroMag over the MCS-I/O port at 38,400 baud. The MCS-IO-BASE has 16 SI inputs, 10 RO outputs, and 4 AO outputs. All data is check summed with auto error correction. Each MCS-IO-BASE board can be powered by a 12VDC regulated power supply and has a automatic power fail reset system.

The **MCS-IO-EXT** provides a flexible and cost effective way to allow relay output, sensor input and analog output expansion for MCS-NitroMag. Each MCS-IO-EXT can be paired with a MCS-IO-BASE to double the number of inputs and outputs.

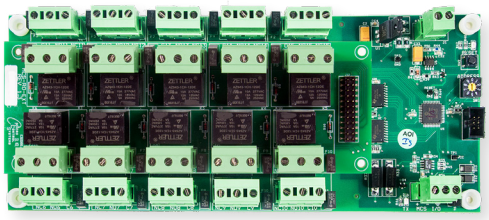
## MCS-SI-Base & MCS-SI-EXT



The **MCS-SI-BASE** provides a flexible and cost effective way to allow sensor input and analog output expansion for the **MCS-NitroMag**. Each MCS-SI-BASE has a stand-alone microprocessor which communicates with the MCS-Nitromag over the MCS-I/O port at 38,400 baud. The MCS-SI-BASE has 16 SI inputs and 4 AO ouputs. All data is check summed with auto error correction. MCS-SI-BASE board can be powered by a 12VDC regulated power supply and has a automatic power fail reset system.

The **MCS-SI-EXT** provides a flexible and cost effective way to allow sensor input and analog output expansion for the **MCS MAGNUM**. Each MCS-SI-EXT can be paired with a MCS-SI-BASE to double the number of inputs and outputs.

## MCS-RO-Base & MCS-RO-EXT



The **MCS-RO-BASE** provides a flexible and cost effective way to allow relay output expansion for the **MCS-Nitromag**. Each MCS-RO-BASE has a stand-alone microprocessor which communicates over the MCS-I/O port at 38,400 baud. All data is check summed with auto error correction. Because the communication is over a RS-485 long distance two-wire differential network transmission system, the MCS-RO-BASE may be located up to 5,000 feet away.

The MCS-RO-BASE board is powered by a 12VDC regulated power supply.

The **MCS-RO-EXT** provides a flexible and cost effective way to allow relay output expansion for the **MCS NitroMag**.

Each MCS-RO-EXT can be paired with a MCS-RO-BASE to double the number of outputs.

# RTAA Typical Control Upgrade

## TRANSDUCERS


The **MCS Pressure Transducers** are one of the most economic and durable options on the market for dealing with high-pressure industrial applications.

In addition to being CE and UL approved, the transducers are capable of surviving high vibration. They include a cavity built out of solid 17-4 PH stainless steel ¼" SAE Female Flare fitting & Schrader valve; 7/16-20 UNF pipe thread which creates a leak-proof, all metal sealed system that makes the transducers ideal for use with rugged HVAC environments.

The MCS Pressure Transducers have a output voltage of 0.5 to 4.5vdc (ratio metric) and are also overvoltage protected in both positive and reverse polarity, which adds an extra layer of safeguard against short-circuiting caused by unpredictable power surges.

## Wells/Tubes

The MCS-WELL was designed to be used with the MCS-T100 temperature sensor, although it has other applications. It is used in the 19D series chillers in the chilled water and condenser water lines. It comes pre-filled with heat conductive compound to aid in temperature to the sensor. The MCS-T100 sensor has the ability to move from 32ºF to 212ºF in approximately 10 to 15 seconds.



The **MCS-TUBE** can be epoxied to a discharge or suction line on the 19D series chillers in order to obtain temperature readings without the use of a well. It was designed to be used with the MCS-T100 temperature sensor and comes pre-filled with heat conductive compound to aid in transferring temperature to the sensor.

## MCS-EPOXY

- Premeasured resins and hardeners in one tube
- Easy to use - bonds, seals, plugs, molds and rebuilds
- No special tools needed
- Can even harden under water

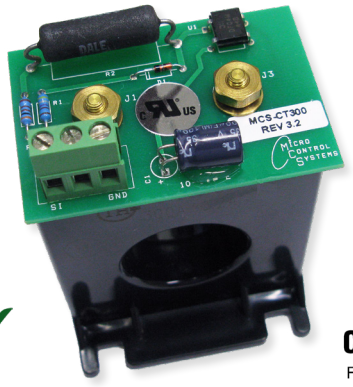

- Pressure tested to ..... 1300 psi
- Temperatures up to ..... 500 degree F
- Color..... Gray
- Density ..... 15.9 lb/gal (1.9 g/cc)
- Hardness (Shore D) ..... 85
- Tensile Strength ..... 6000 psi
- Compressive Strength ..... 18.000 psi
- Modulus of Elasticity ..... 6 x 105 psi
- Shear Strength ..... 700 psi

# RTAA Typical Control Upgrade

## MCS-CT300

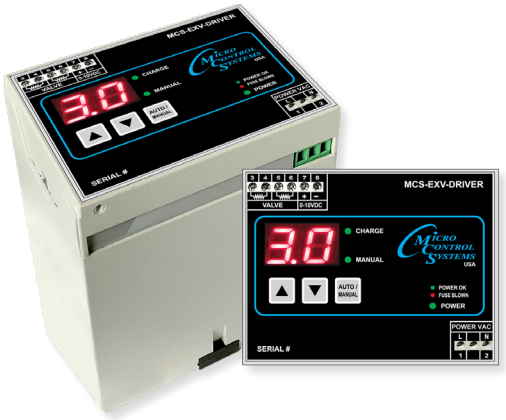
The **MCS-CT300** current sensor monitors current flowing to electrical equipment. The magnitude of the current is converted to a linear 0 to 5vdc output signal which can be read as a standard analog input signal. The signal is used by MCS micro controllers for the following:

1. For slide valve control on screw machines
2. For high amp motor overload protection
3. For verification of device on / off




RoHS Compliant

c UL us
File No: E169780




## MCS-EXV-DRIVER

The **MCS-EXV-DRIVER** is used for the positioning and control of Sporlan, Alco, Carel, and Danfoss bipolar expansion valves using an analog input of 0-10 VDC (0 VDC = 0% valve opening, 10 VDC = 100% valve opening). The MCS-EXV-DRIVER also supports overdriving on full opened and full closed voltage signals. The display decimal notifies when overdriving by blinking.

**Auto Mode –** The unit defaults to this mode after every power up. In this mode, the MCS-EXV-DRIVER-XX positions the valve according to the analog input control voltage. **Manual Mode –** When in auto mode, if holding the 'Auto/Manual' key for 5 seconds and then entering the authorization number switches the unit into manual mode.

## MCS-SERI

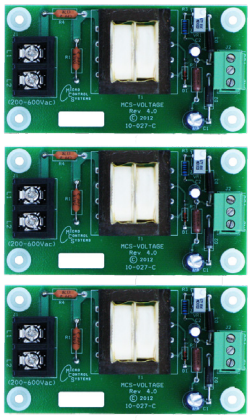
The **MCS-SERI** are Electronically Operated Step motor flow control valves, intended for the precise control of liquid refrigerant flow. Synchronized signals to the motor provide discrete angular movement, which translates into precise linear positioning of the valve piston. Valve pistons and ports are uniquely characterized, providing improved flow resolution and performance. The MCS-SERI valves are easily interfaced with MCS microprocessor based controllers. Therefore, they are applicable on all the same types of systems found in the air conditioning and refrigeration industry as thermostatic expansion valves.

# Example Typical Control Upgrade


## MCS-PHASE

The **MCS-PHASE** is a programmable 3-phase line voltage monitor with 25-fault memory, high temperature LCD display, easy setup and clear diagnostic readout of system faults. The MCS-PHASE was specifically designed to protect motors and other 3-phase loads from premature failure and damage due to common voltage faults such as unbalance, over/under voltage, phase loss, reversal, incorrect sequencing and rapid short cycling.

## MCS-VOLTAGE-3PH



The **MCS-VOLTAGE-3PH** measures AC voltage between 200-600 AC. It is designed to monitor the voltage of each phase of the main input power to the unit. The MCS-VOLTAGE-3PH sensor provides three separate DC voltage outputs that correspond to the AC voltage it is measuring.

## MCS-USB-RS485

The **MCS-USB-RS485** is a USB to RS485 cable that provides a fast simple way to connect a **MCS-MAGNUM** or **MicroMAG** to a Laptop or PC.

The MCS-USB-RS485 cable contains a small internal electronic circuit board, which converts USB to RS485 with LED indicators for transmit (TX=Red) and receive (RX=Green).

# Example Typical Points List with Optional Boards

## Relay Outputs (MCS-IO-BASE)

| # | Output Name | Type | Description |
|---|---|---|---|
| 1-1 | Comp 1M | Screw w/ EXV | Compressor Start Main |
| 1-2 | Comp 1D | Standard | Compressor Start Delta |
| 1-3 | Load 1 | Standard | Increase Compressor Capacity - Compressor 1 |
| 1-4 | Unload 1 | Standard | Decrease Compressor Capacity - Compressor 1 |
| 1-5 | LiqLinSol1 | Standard | Liquid Line Solenoid - Compressor 1 |
| 1-6 | Spare | X | Not Used - Reserved for Expansion |
| 1-7 | Spare | X | Not Used - Reserved for Expansion |
| 1-8 | BrrlHeater | Standard | Evaporator Heater |
| 1-9 | Warning | Standard | Warning Light: Unit is in a safety condition prior to a safety shutdown |
| 1-10 | Alarm | Standard | Alarm Light: Unit is in a safety shutdown |

## Relay Outputs (MCS-IO-EXT)

| # | Output Name | Type | Description |
|---|---|---|---|
| 2-1 | Comp 2M | Screw w/ EXV | Compressor Start Main |
| 2-2 | Comp 2D | Standard | Compressor Start Delta |
| 2-3 | Load 2 | Standard | Increase Compressor Capacity - Compressor 2 |
| 2-4 | Unload 2 | Standard | Decrease Compressor Capacity - Compressor 2 |
| 2-5 | LiqLinSol2 | Standard | Liquid Line Solenoid - Compressor 2 |
| 2-6 | Spare | X | Not Used - Reserved for Expansion |
| 2-7 | Spare | X | Not Used - Reserved for Expansion |
| 2-8 | Spare | X | Not Used - Reserved for Expansion |
| 2-9 | ChwPump 1 | Standard | Chilled water pump #1: Turn ON or OFF |
| 2-10 | ChwPump 2 | Standard | Chilled water pump #2: Turn ON or OFF |

## Relay Outputs (MCS-RO-BASE)

| | | | |
|---|---|---|---|
| 3-1 | CndFan 1-1 | Standard | Condensor Fan #1 : Turn ON or OFF |
| 3-2 | CndFan 1-2 | Standard | Condensor Fan #2: Turn ON or OFF |
| 3-3 | CndFan 1-3 | Standard | Condensor Fan #3: Turn ON or OFF |
| 3-4 | CndFan 1-4 | Standard | Condensor Fan #4: Turn ON or OFF |
| 3-5 | CndFan 1-5 | Standard | Condensor Fan #5: Turn ON or OFF |
| 3-6 | CndFan 2-1 | Standard | Condensor Fan #1 : Turn ON or OFF |
| 3-7 | CndFan 2-2 | Standard | Condensor Fan #2: Turn ON or OFF |
| 3-8 | CndFan 2-3 | Standard | Condensor Fan #3: Turn ON or OFF |
| 3-9 | CndFan 2-4 | Standard | Condensor Fan #4: Turn ON or OFF |
| 3-10 | CndFan 2-5 | Standard | Condensor Fan #5: Turn ON or OFF |

# Example Typical Points List with Optional Boards

## Sensor Inputs (MCS-IO-BASE)

| # | Output Name | Type | Description |
|---|---|---|---|
| 1-1 | ChillWtrIn | MCST100 | Chilled Water In Temperature |
| 1-2 | ChillWtrOut | MCST100 | Chilled Water Out Temperature |
| 1-3 | Suct PSI 1 | MCS-200 | Suction Pressure - Compressor 1 |
| 1-4 | Disc PSI 1 | MCS-500 | Discharge Pressure - Compressor 1 |
| 1-5 | Oil PSI 1 | MCS-500 | Oil Pressure - Compressor 1 |
| 1-6 | Liq PSI 1 | MCS-500 | Liquid Refrigerant Pressure - Compressor 1 |
| 1-7 | Cmp Amps 1 | CT-300 | Compressor Amperage 1 |
| 1-8 | SuctTmp 1 | MCS-T100 | Suction Temperature - Compressor 1 |
| 1-9 | DiscTmp 1 | MCST100 | Discharge Temperature - Compressor 1 |
| 1-10 | LiqLinTmp 1 | MCST100 | Liquid Line Temperature - Compressor 1 |
| 1-11 | Mtr Fault 1 | Digital | Detects phase loss, phase reversal, high motor temperature & high discharge temperature - Compressor 1 |
| 1-12 | Oil Fltr SW 1 | Digital | Oil Filter Switch - Compressor 1 |
| 1-13 | ChwFlow | Digital | Proof for chilled water flow |
| 1-14 | PhaseLoss | Digital | Phase loss: Phase imbalance |
| 1-15 | Run/Stop | Digital | Run/Stop Hand Switch |
| 1-16 | EmgStop | Digital | Emergency Stop Switch |

## Sensor Inputs (MCS-IO-EXT)

| # | Output Name | Type | Description |
|---|---|---|---|
| 2-1 | TransOK1 | Digital | Transition Starter OK - Compressor 1 |
| 2-2 | TransOK2 | Digital | Transition Starter OK - Compressor 2 |
| 2-3 | Volts A | User Defined | Volts phase A |
| 2-4 | Volts B | User Defined | Volts phase B |
| 2-5 | Volts C | User Defined | Volts phase C |
| 2-6 | Spare | X | Not Used - Reserved for Expansion |
| 2-7 | Spare | X | Not Used - Reserved for Expansion |
| 2-8 | Spare | X | Not Used - Reserved for Expansion |
| 2-9 | Spare | X | Not Used - Reserved for Expansion |
| 2-10 | Spare | X | Not Used - Reserved for Expansion |
| 2-11 | Spare | X | Not Used - Reserved for Expansion |
| 2-12 | Spare | X | Not Used - Reserved for Expansion |
| 2-13 | Spare | X | Not Used - Reserved for Expansion |
| 2-14 | Spare | X | Not Used - Reserved for Expansion |
| 2-15 | Spare | X | Not Used - Reserved for Expansion |
| 2-16 | Spare | X | Not Used - Reserved for Expansion |

# Example Typical Points List with Optional Boards

## Sensor Inputs (User Logic - virtual board)

| # | Output Name | Type | Description |
|---|---|---|---|
| 4-1 | SuctSprHt1 | User Logic | Suction Super Heat - Compressor 1 |
| 3-2 | SuctSprHt2 | User Logic | Suction Super Heat - Compressor 2 |
| 4-3 | SubCool1 | User Logic | Subcooling - Compressor 1 |
| 4-4 | SubCool2 | User Logic | Subcooling - Compressor 2 |
| 4-5 | SuperHeat+ | User Logic | Input for Plotting Super Heat with MCS Connect |
| 4-6 | SuperHeat- | User Logic | Input for Plotting Super Heat with MCS Connect |

## Analog Outputs (MCS-IO-BASE)

| # | Output Name | Type | Description |
|---|---|---|---|
| 1-1 | EXV1 % | Hardwired | % of Expansion Valve opening for Circuit 1 |
| 1-2 | EXV2 % | Hardwired | % of Expansion Valve opening for Circuit 2 |
| 1-3 | X | Spare | Not Used - Reserved for Expansion |
| 1-4 | X | Spare | Not Used - Reserved for Expansion |

# Sample Questionnaire

**Visit https://www.mcscontrols.com/brochures.html for a fillable form to email to sales@mcscontrols.com**

## General Information

Company:_____ Phone: _____

Name:_____ Title:_____ Email:_____

Mobile:_____ Site:_____

## Unit Information

Installation Site Name _____

Model # _____ Unit Serial # _____ Site Unit # _____

What is the Voltage of the Unit? ☐ 208V, ☐ 230V, ☐ 460V, ☐ 4160V, Other Voltage _____

What is the Control voltage in the unit? ☐ 24V, ☐ 115V, ☐ 230V, What type of Refrigerant is being used? _____

Is MCS monitoring Main Voltage? ☐ Yes ☐ No. Will Phase loss need to be monitored? ☐ Yes ☐ No.

## Network Information

1. Integrating to Building Management System (BMS) ☐ Yes ☐ No, If yes, complete the form provided on page 2.

## Motor Information

2. What is the Starter Type?_____, Are we monitoring the Transition OK or Starter Fault?_____
   a. Does the Compressor Motor a Remote Starter? ☐ Yes ☐ No.
3. Is there a Variable Frequency Drive? ☐ Yes ☐ No
   a. What is the VFD Make and Model? VFD Make _____ VFD Model _____
   b. Will the VFD be hardwired to MCS controls, over MODBUS _____.
   c. Is MCS required to control VFD Cabinet Auxiliary Fan? ☐ Yes ☐ No.
4. What are the Motor "RUN LOAD AMPS'(FLA)? **COMP 1**: _____ **COMP 2**: _____.
5. Is Hot Gas Bypass present? ☐ Yes ☐ No, How does it operate?_____.



## Purge Information

6. What is the Purge Type on the unit, how is it controlled ? _____.

## Evap/Condenser/Pump Information

7. Is MCS controlling the chiller Water Pump(s)? ☐ Yes ☐ No, How will they be wired? _____
8. Is MCS controlling the Condenser water Pump(s)? ☐ Yes ☐ No, How will they be wires?_____
9. Is MCS controlling Condenser/Evaporator Isolation Valve? ☐ Yes ☐ No ☐ BMS.
10. Is MCS controlling tower fan(s)? ☐ Yes ☐ No, How many are there _____, how are they wired?_____.
11. Will the Chilled/Condenser Water Flow be measured by?_____.

## Ambient Information

12. Will Ambient temperature need to be monitored? ☐ Yes ☐ No.

## CVHA Information Only

13. Is there a Motor Cooler? ☐ Yes ☐ No, Will MCS be monitoring the Oil Feed? ☐ Yes ☐ No, Return Temperature? ☐ Yes ☐ No

**COMMENTS ( Is there any other Infomation we need to know?):**

Click for Brochure Upgrades▶

1. ***Viewing form printed Brochure***, Scan QR code from mobile device, email the form to your email address.
2. Click on the emailed link. Fill out the digital fillable form on a computer and email to sales@mcscontrols.com
3. ***Viewing brochure from Computer,*** click on QR code, find the form your need, click on fillable form, fill out and email to sales@mcscontrols.com

Micro Control Systems

5580 Enterprise Pkwy., Fort Myers, FL 33905
Office: 239-694-0089 • Fax: 239-694-0031
www.mcscontrols.com