



# MCS-NITROMAG-CENTRIFUGAL-KP

## Description & Specifications

(MCS-NITROMAG is pending acceptance by UL as a Recognized Component)



Part # **MCS-NITROMAG-CENTRIFUGAL-KP**

### Description

The **MCS-NITROMAG CENTRIFUGAL-KP** enclosure is made of powder-coated aluminum for durability and longevity. A left hand swing door is mounted with three eight-inch hinges for strength. A key lock is provided for security on the door while still giving easy access.

MCS-NitroMag-Centrifugal-KP comes standard equipped with a **MCS-NITROMAG** controller, LCD Keypad, three 16 amp, one 20 amp and one 5 amp circuit breakers. There is also a 15A electrical outlet for laptop plug-in power at the panel and a Ground Bar for Sensor input shields.

The MCS-NitroMag-Centrifugal-KP has the following; MCS-IO-BASE, MCS-IO-EXT, MCS-SI-BASE, MCS-SI-EXT and a MCS-RO-BASE. It includes a processor, memory, eMMC Flash, and supporting power circuitry.

Standard configuration includes: isolation relays, BMS Network connectivity, (Field selectable hardware or network BMS), and BMS Terminal block for chiller relay.

Control panel includes the following; 20A, 16A and a 5A Single-Pole Circuit Breaker. A 5-port 10/100/1000 Mbps Ethernet Workgroup Switch Industrial rated, Red Alarm Indicator, Yellow Warning Indicator, Emergency Stop Switch with guard and 3 Position Run/Stop Selector Switch.

**SHIELDWIRE-GROUNDING multi-terminal connectors** (11) are included to eliminate stray electrical current, thereby helping to reduce line noise from the sensors to the controller.

### Packaging

Weight ..... 88 lbs(approx.)

Box ..... 29 x 10.5 x 42 (approx.)

### Specifications

#### NEMA Rating – Type 2 IP30 Control Panel

Enclosure is intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment and is not protected from liquids.

#### Industrial Control Panel

Dimensions of control panel 27" w x 39.75" h x 8.0" d

Mounting Holes..... Mounts with four pre-drilled 15/32" holes

Rated Voltage (Standard) .. 120VAC or 230VAC

Phase / Frequency ..... 1 Phase / 60Hz

Full Load Current(approx) . 40A at 120VAC or 20A at 240VAC

Short Circuit Current Rating 10kA

#### 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 - Specification

**12vdc power supply**..... 85vac ~ 264vac

AC frequency range..... 47 ~ 63Hz / 7.5A / 90W

**24vdc power supply**..... 85vac ~ 264vac

AC frequency range..... 47 ~ 63Hz / 4A / 96W

#### KEYPAD / LCD

Display ..... 128 x 64 dot pixel STN

monochrome graphics LCD

with 2.8" diagonal viewing area

Color ..... White characters on a blue  
background (Reversible)

#### Power Supply - Specification

**12vdc power supply** ..... 85vac ~ 264vac

AC frequency range ..... 47 ~ 63Hz

Output rated current ..... 7.5A

Output rated power ..... 90W

**24vdc power supply** ..... 85vac ~ 264vac

AC frequency range ..... 47 ~ 63Hz

Output rated current ..... 4A

Output rated power ..... 96W

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