



# MCS-NITROMAG-SB INDUSTRIAL CONTROL PANEL

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



Part # MCS-NITROMAG-SB\*

## Description

The **MCS-NITROMAG-SB Industrial Control Panel\*** is made of powder coated aluminum for durability and longevity. A left hand swing door is mounted with three seven-inch hinges for strength. A key lock is provided for security on the door while still giving easy access of the display and keypad.

Critical safety components manufactured by MCS and installed in this panel are UL Recognized Components under UL File #169780 and are also ROHS compliant.

The MCS-NITROMAG-SB comes standard equipped with a MCS-NITROMAG micro controller, MCS-IO-BASE, MCS-IO-EXT. It includes a processor, memory, eMMC Flash, and supporting power circuitry.

Keypad/LCD, a 20 amp and a 5 amp circuit breakers. There is also an electrical outlet for laptop plug-in power at the panel.

Power is supplied using a MCS-12V power supply.

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

Options are available for all MCS-NITROMAG Control Panels with Touch Screens. These options are factory installed by MCS at time of purchase. Visit our website for options available.

## Packaging

Keypad OEM w/MCS-NitroMag-N controller installed  
WiFi Antenna w/cable & extended cable

Weight .....40 lbs(approx)  
Box .....24" X 30" x 10"

## Specifications

### Industrial Control Panel\*

#### NEMA Rating – Type 2; IP 30

Enclosure Dimensions ..... 18.2" w x 24.75" h x 8" d  
462.28 W x 628.65 H x 203.2 D mm  
Mounting Holes ..... Mounts, 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

#### TEMPERATURE RANGE Control Panel/Keypad/LCD

Operating Temp. of panel ..... -4°F to +158°F (-20°C to + 70°C)  
Operating Humidity ..... 0-95% Non-Condensing  
Storage Temp. .... -22°F to +185°F (-30°C to + 85°C)

#### Keypad

Dimensions ..... 5.26" w x 8.50" h x 1.32" d  
(133.6 mm x 215.9 mm x 33.62 mm)  
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  
Flash Memory ..... 16 GB EMMC

INPUT	MINIMUM	NOMINAL	MAXIMUM
VOLTAGE	10	12	12.5
AMPS			0.5

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

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\* Photo shown is an example of an Industrial Control Panel; some optional equipment may be shown.

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