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HeLAN® Motor Control Board

Part #: He-Motor

Contents

Product Summary

The He-Motor Module provides a microprocessor based motor interface for use with the Ce-Door-EZ module and allows for the use of single motor and multi-motor door /gate systems. The He-Motor provides motor current supervision to provide additional safety along with the continuous monitoring of the digital encoder to provide maximum safety with unparalleled ease of use and security.

Installation

Before installing devices and making wiring connections, familiarize yourself with the module components. Figure 1 shows the main component locations for the circuit

CAUTION: You must be free of static electricity before handling circuit boards. Wear a grounding strap or touch a bare metal surface to discharge static electricity.

Installing the Module

This section describes how to install the HeLAN Motor. Before starting the installation, plan your system layout

Installing the system consists of the following:
- ✓ Determining the module location.
- ✓ Running wires to the panel location.
- ✓ System wire lengths.
- ✓ Mounting the module.
- ✓ Connecting the HeLAN to the module
- ✓ Connecting devices to module inputs.
- ✓ Powering up the module

Determining the Module Location

Before permanently mounting the module, determine the module location using the following guidelines:

- ✓ Centrally locate the module in relation to detection devices whenever possible to help reduce wire run lengths and labor.
- ✓ Avoid running wires parallel with electrical wiring, or fixtures such as fluorescent lighting, to prevent wire runs from picking up electrical noise.

Note: Keep all Low-Voltage Circuits properly separated from High-Voltage Circuits in compliance with the National Electrical Code (NEC). A Low-Voltage Circuit is defined as a circuit involving a potential of not more than 30 volts alternating current (AC) rms, 42.4 volts direct current (DC) or peak.

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Running Wires to the module Location

Once you have determined the best possible module location, run any necessary wires for the:
- ✓ Input devices
- ✓ System HeLAN
- ✓ Motor input

Mounting the module:

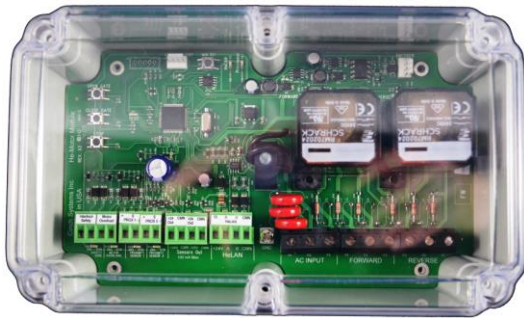The He-Motor board should be mounted in an environmentally safe non-metallic enclosure

Figure 3: Mounting in a non-metallic enclosure
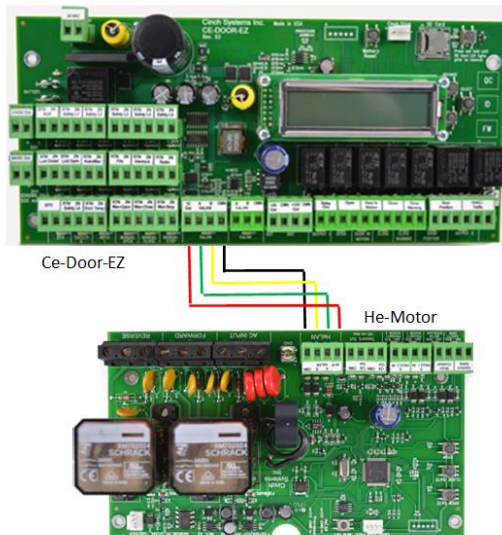
Connecting the HeLAN to the module

Figure 4: Connecting the HeLAN to the Protector Panel

He-Motor Inputs:

Interlock - safety input to prevent operation if activated

Motor Overload - safety input to prevent operation, requires input from motor overload output

Proximity In - input for proximity limit switch

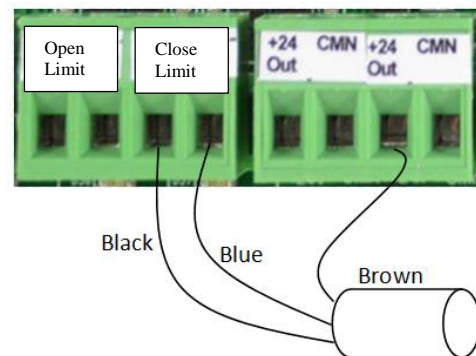Sensor Voltage Out - provides 24VDC to proximity (powered) sensors

AC Input - AC in up to 480VAC

Forward - AC output from forward contactor

Reverse - AC output from reverse contactor

Wiring Proximity Limit Switches:

Proximity Sensor Wiring

Proximity sensors activate when the door/gate is fully open and closed, when activated the motor stops

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Programming

The He-Motor enrolls into the Ce-Door-EZ control panel.

Enrolling the He-Motor:

1. At the Ce-Door-EZ enter programming by pressing the Select Button and scrolling to Advanced Programming

2. Enter Access Code (default 1234)

3. Using the Advance and Back Buttons find HeLAN Enrollment

4. Press the Select Button, when complete the LCD will display "Complete"

Motor Current Programming:

The He-Motor can provide a safety from motor overcurrent. The He-Motor board constantly monitors the current, if the current rises due to an obstruction the gate/door will reverse direction.

The He-Motor board along with the Door-EZ module "learns" the current characteristics of the motor over time. The programmable factor in system programming is the percentage over the learned current that will activate the safety.

Programming overcurrent:

1. Enter Advanced System Programming on the Ce-Door-EZ

2. Scroll to Input Current Factor, set the factor to a low level (1.03 for example) test the safety function by operating the gate/door and holding back to allow the motors current to rise. The setting is set properly when the door/gate safety reverses the door when sufficient pressure is applied.

3. Setting Overcurrent Safety Activation: selects what the door/gate does when the safety is activated

Enter Advanced Programming on the Ce-Door-EZ panel

1. Using the Advance/Back buttons scroll to Safety Actions, press select

2. Using the Advance/Back buttons scroll to Motor Current Fault, press Select a M will display

3. Using the Advance/Back buttons select the safety action for motor overcurrent, Reverse, Stop or Reverse for 2 Seconds, press Select

Setting Overcurrent Safety Active: selects when the safety is activated

Enter Advanced Programming on the Ce-Door-EZ panel

1. Using the Advance/Back buttons scroll to Safety Active, press select

2. Using the Advance/Back buttons scroll to Motor Current Fault, press Select a M will display

3. Using the Advance/Back buttons select the safety active for motor overcurrent, Open, Close, or Open and Close, press select
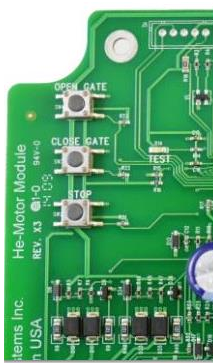
Exit form Advance programming

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Test Buttons:

Test buttons are available on the motor board to allow for simple motor testing at the board location
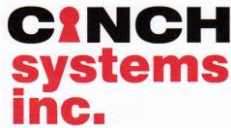

Specifications

Compatibility:	Ce-Door-EZ
Power Requirements:	24 VDC nominal (24 VDC minimum, 32 VDC maximum), 208 mA maximum
Panel Data Bus:	HeLAN - 128 Bit AES Encrypted
CINCH Stick Port:	One (1) - 128 Bit AES Encrypted, CINCH Stick port.
Storage Temperature:	-30° to 140° F (-34° to 60° C)
Operating Temperature:	32° to 120° F (0° to 49° C), up to 140° F (60° C) under temporary conditions
Maximum Humidity:	90% relative humidity, non-condensing
Onboard Relays:	24VDC 16A/400VAC

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Motor Board Wiring:
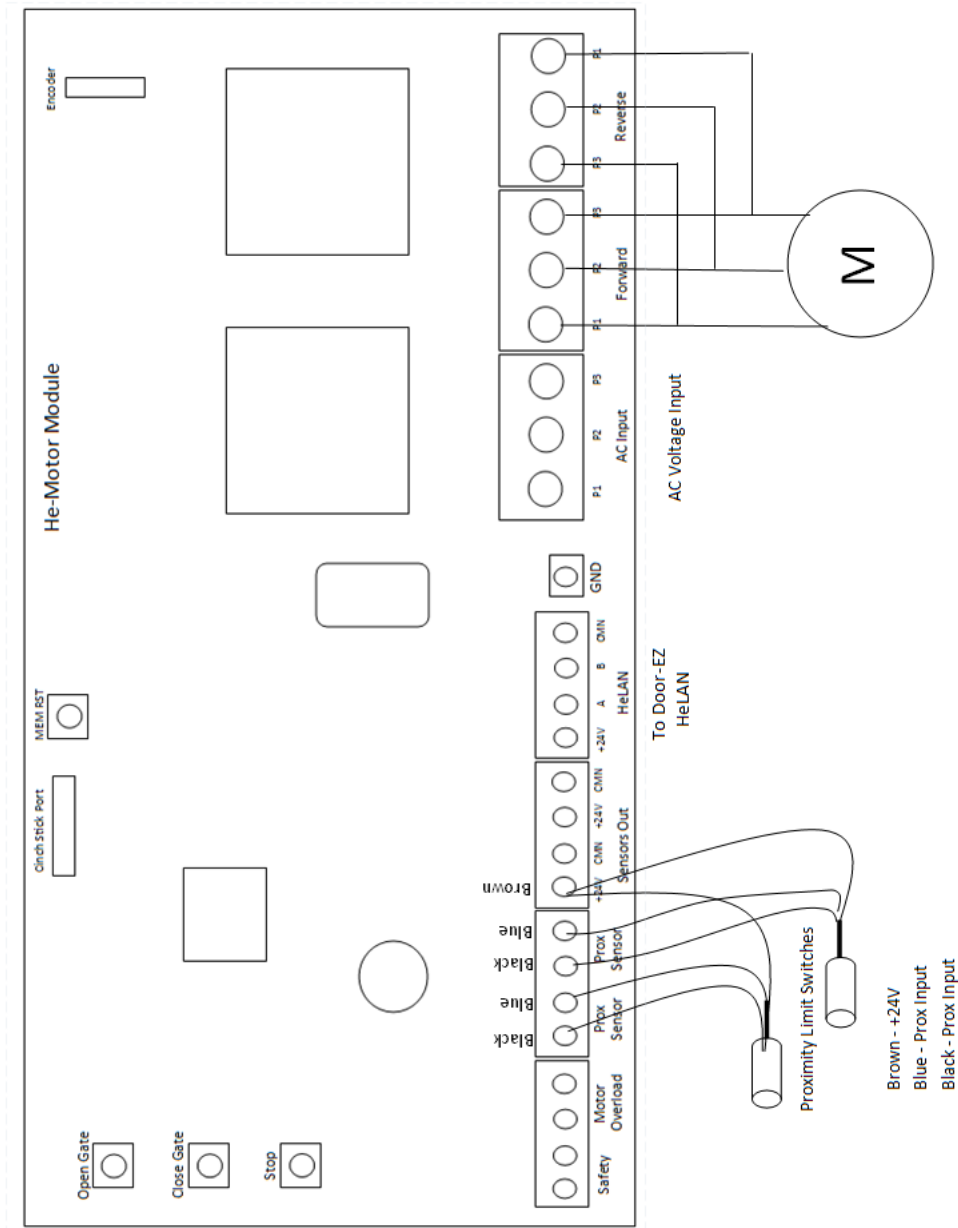
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Notices

FCC Part 15 Information to the User

Changes or modifications not expressly approved by CINCH Systems, Inc. can void the user's authority to operate the equipment.

FCC Part 15 Class A (Commercial)

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.
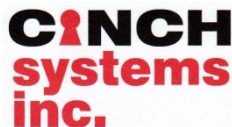
FCC Part 15 Class B (Residential)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Install a quality radio or television outdoor antenna if the indoor antenna is not adequate.
• Reorient or relocate the panel.
• Move the panel away from the affected equipment.
• Move the panel away from any wire runs to the affected equipment.
• Connect the affected equipment and the panel to separate outlets, on different branch circuits.
• Consult the dealer or an experienced radio/TV technician for help.
• Send for the FCC booklet *How to Identify and Resolve Radio-TV Interference Problems*, available from the U.S. Government Printing Office, Washington, D.C. 20402.
Stock Number: 004-000-00345-4.