

## HSC MASTER OPERATOR

CHAIN HOIST CONTROL SYSTEMS

# USER MANUAL

## HSC Master Operator

A-17-005-0011 Master Operator  
A-17-005-0102 Master Operator Interface



This Master Operator is intended for professional use only.  
Read this entire document before installing, operating, or using  
this HSC Master Operator.

■ ORIGINAL INSTRUCTIONS

Copyright 2018 © Motion Laboratories Inc.  
All rights reserved  
Part Number: A-17-005-0011UM  
Release: 06-2018

Original Instructions  
HSC Master Operator  
Rev ORG  
Released 06-2018

The reproduction, transmission or use of this document, or its contents is not permitted unless authorized in writing.  
Offenders will be liable for damages.

All rights including rights created by patent grant or registration of a utility model or design are reserved.  
Other functions not described in this document may be available. However, this fact shall not constitute an obligation to supply such functions with a new product or when servicing.

We have checked that the contents of this document correspond to the device described.  
There may be discrepancies nevertheless, and no guarantee can be given that they are completely identical.  
The information contained in this document is reviewed regularly and any necessary changes will be included in the next edition.

We welcome suggestions for improvement.

Motion Laboratories Inc. intends this document, whether printed or electronic, to be provided in its entirety.



## FOREWORD

---

- **USER DOCUMENTATION**



**WARNING**

Before installing and commissioning the HSC Master Operator, you must read all safety instructions and warnings carefully including all the warning labels attached to the equipment. Make sure that the warning labels are kept in a legible condition and replace missing or damaged labels.

- **REGIONAL CONTACTS**

**Motion Laboratories Inc.**

520 Furnace Dock Road,  
Cortlandt Manor,  
NY 10567  
USA

Tel: 1.800.227.6784

Tel: +1 (914) 788-8877

Fax: +1 (914) 788-8866

[www.motionlabs.com](http://www.motionlabs.com)

[Info@motionlabs.com](mailto:Info@motionlabs.com)

- **CENTRAL TECHNICAL SUPPORT**

**Motion Laboratories Inc.**

520 Furnace Dock Road,  
Cortlandt Manor,  
NY 10567  
USA

Tel: 1.800.227.6784

Tel: +1 (914) 788-8877

Fax: +1 (914) 788-8866

[www.motionlabs.com](http://www.motionlabs.com)

[Info@motionlabs.com](mailto:Info@motionlabs.com)

- **USE FOR INTENDED PURPOSE ONLY**

The equipment may be used only for the application stated in the manual and only in conjunction with devices and components recommended and authorized by Motion Laboratories Inc.

- **IDENTIFICATION**

This user manual pertains to the following Hoist Safety Controller(HSC) Master Operator model:  
A-17-005-0011



Table of Contents

**FOREWORD .....2**

**TABLE OF CONTENTS .....3**

**WARNINGS .....4**

**SAFETY INSTRUCTIONS .....5**

**OVERVIEW .....6**

**TECHNICAL SPECIFICATIONS .....10**

**INSTALLATION .....12**

**RELATED PRODUCT LINE COMPONENTS.....26**

**MAINTENANCE .....27**

**SPARE PARTS AND DISPOSAL.....28**

## WARNINGS

- **SYMBOLS**



**DANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION**

Used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.  
Used without a safety alert symbol indicates a potentially hazardous situation which, if not avoided may result in property damage.

- **DON'Ts**

Do NOT allow lifting operations unless carried out by a competent person.

Do NOT operate the hoists without a clear view of the load or reliable communication with an observer.

Do NOT operate the hoists unless the hazard zone has been cleared.

Do NOT operate the system until a full risk assessment for your particular application has been completed.

Do NOT operate the system until the E-stop system has been connected and tested.

Do NOT operate the system unless all operators and observers have been informed of the location of all E-stop switches.

Do NOT Leave the system unattended and enabled.



**1.800.227.6784** FOR MORE INFORMATION  
<http://www.motionlabs.com/>

520 Furnace Dock Road . Cortlandt Manor, New York 10567 . Phone: (914)788-8877 Fax: (914)788-8866

**SAFETY INSTRUCTION**

• **GENERAL SAFETY INFORMATION**

The manual must be kept by a person in charge in a suitable place and ready for consultation, in optimal conditions. Should it be lost or damaged, the manual can easily be retrieved from the manufacturers website: [www.motionlabs.com](http://www.motionlabs.com).

The manufacturer retains all material and intellectual rights on the manual, and restricts its duplication, even partial, for any commercial use.



**CAUTION**

All marking data should not be removed by grinding, abrasion or peeling, whether accidental or not. Any unit that does not carry the proper identification references should be removed from service until those references can be replaced.



**WARNING**

This equipment contains dangerous voltages and controls potentially dangerous rotating mechanical parts. Non-compliance with or failure to follow the instructions contained in this manual can result loss of life, severe personal injury or serious damage to property.

• **ELECTRICAL SAFETY INFORMATION**

There are no user serviceable parts inside the enclosure.



**DANGER**

Risk of electric shock. Disconnect the power supply across all poles before opening the equipment for access. Repairs on equipment must only be carried out by trained NA service technicians familiar with the technical specifications contained in this unit.

To ensure proper operation and dependability, any defective electrical component must be replaced using parts contained in the relevant spare parts list.

• **OPERATIONAL SAFETY INFORMATION**

The HSC Master Operator has a menu of options that must be selected for safe and reliable operation. It is imperative that the user read and understand the instructions contained in the manual before attempting to operate.

This controller uses industry standard color codes for illumination: Red is for safety warnings, Blue indicates a reset requirement and Green indicates a ready to operate state.



## OVERVIEW

---

### • PRODUCT DEFINITION

The Master Operator identified in this manual is a human machine interface for the HSC-01 Hoist Safety Controller. It is the operator for a Master mode selected Hoist Safety Controller. It provides an expanded version of the front panel HMI for a Hoist Safety Controller in the “Master” mode. This controller consists of two parts, the master operator itself and a 1 RU Rack mounted interface.

The master operator is equipped with an E-stop switch that interfaces with the HSC-01 SIL 3 rated e-stop system via a Neutricon 8 pin cable.

The Master Operator can operate up to 12 HSC-01 Chain hoists though one master and 2 slave units.

The Master Operator utilizes all the safety and functional features of the HSC.

### • PRODUCT PERFORMANCE

As this is a complementary product to the HSC-01 and designed to provide enhanced operation of the master mode unit, there is an information flow that must be understood. Certain information is drawn from the HSC and may be manipulated by the master operator. Certain information may only be entered in the HSC-01 but will be accessed and controlled in a limited fashion by the master operator. Finally, certain information is only available within the master operator itself such as; User Management and Cue Management.

The Master Operator identified in this manual, monitors and controls the following:

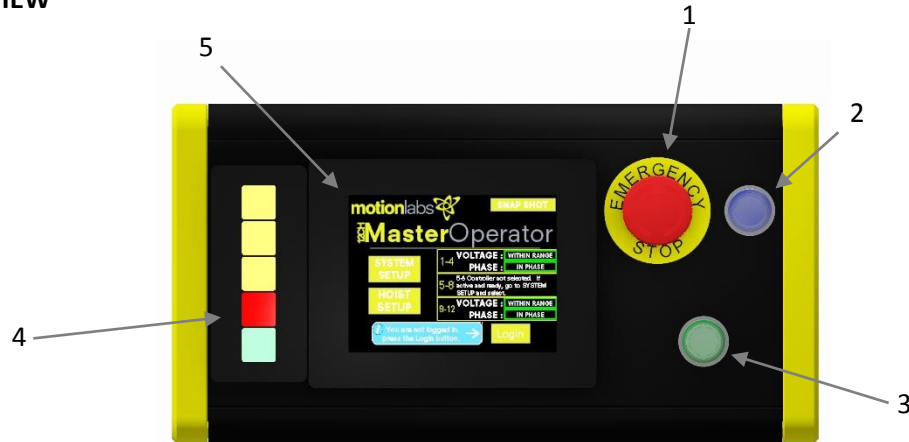
- All operating features of the HSC-01 while in Master mode.
- Cue Mode Operation, including Cue Management Functions
- Slave selection
- The enabling of Load Manager (NO PARAMETERS)
- The enabling of Position Manager, including limited encoder reset function.

The Master Operator identified in this manual does not allow access to the following:

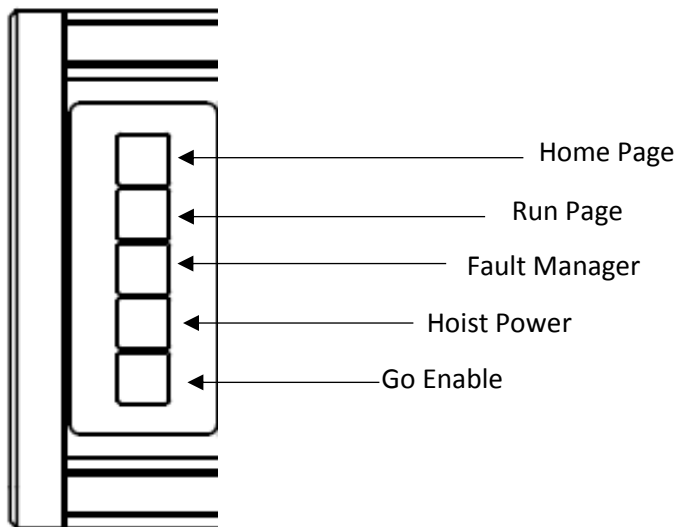
- Load Cell parameters such as upper or lower weight limits and weight filter.
- Position parameters such as upper or lower limits
- Hoist Type
- Slave address assignment

## OVERVIEW

### FRONT VIEW



1. **Emergency Stop Switch.** Red button that, when pressed, activates an Emergency stop.
2. **Reset Switch.** Blue illuminated momentary button that lights whenever a E-Stop condition has been triggered and remains lit until the condition has been satisfied and the system is reset by pressing the button.
3. **Go Button.** Green illuminated momentary button that lights whenever a run condition is enabled. Pressing the button when lit will initiate the configured run command.
4. **Function Keys.** A set of 5 tactile illuminated buttons. Each with its own function as detailed below:



The Home Page button takes you to the “Home” page at any time. Lamp will be dim yellow off page and bright yellow when page is active.

The Run Page button takes you to the run page screens at any time after Login. Note that cycling the button will scroll you through the “Manual Control”, “Go To Position Control”, and “Cue Control” pages. Lamp will be dim yellow off page and bright yellow when page is active.



## OVERVIEW

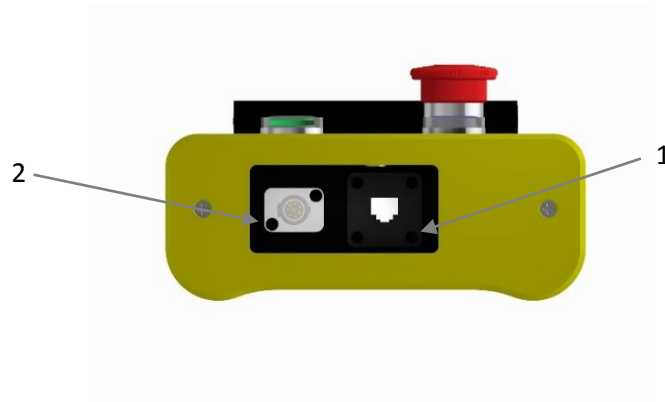
The Fault Manager button takes you to the “Fault Detail” page at any time. Lamp will be dim green if there are no active faults in the list, blinking red if there are active faults in the list and blinking yellow if there are in-active faults in the list that require acknowledgement.

Hoist Power. This button will turn power on to the hoists, only after Login. When activated, the switch will illuminate green.

Go Enable. This button will enable the run command and light the “Go” button after Login and Hoist Power have been completed. Lamp will illuminate green when active.

5. **HMI.** Main operating panel displaying information and allow the user to make configuration changes.

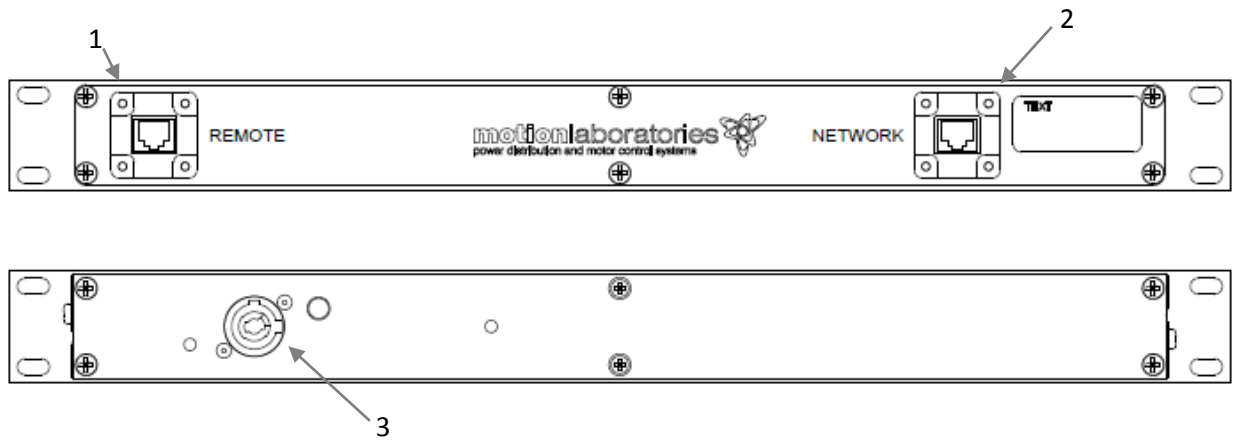
- **SIDE VIEW**



1. **Power & Data Connection.** Harting PushPull connector. Sends power to the hand held. Used for data communication.
2. **E-Stop Link.** Neutrik neutricon connector. Used for E-Stop circuit.

OVERVIEW


• MASTER OPERATOR INTERFACE



1. **Master Operator Connection.** Harting PushPull connector. Connects to the Master Operator.
2. **HSC Connection.** Harting PushPull connector. Connects to the HSC-01.
3. **Power Input.** Neutrik Powercon. Input Power.

**TECHNICAL SPECIFICATIONS**

• **PART NUMBERS**

MASTER OPERATOR PART NUMBER TABLE				
PART NUMBER	Type	Description		
A-17-005-0011	Operator	Hoist Safety Control System, Master Operator, HMI 5.7" with Extended HH Enclosure, E-Stop, Reset, Go, HMIZRA1, Neutricon, Harting PushPull		
A-17-005-0102	Interface	Hoist Safety Control System, HMI Interface, RP1, Powercon Input, 2 Harting Pushpull		

• **SYSTEM CAPACITY**

The Master Operator in this manual can control up to 3 HSC Controllers. 12 Channels Maximum.

• **ELECTRICAL SPECIFICATIONS, OPERATOR**

Input Power..... 24VDC  
 Current Rating, North America..... 1A Max

• **ELECTRICAL SPECIFICATIONS, INTERFACE**

Input Power..... 85 – 264VAC  
 Frequency Range..... 47 – 63Hz  
 Current Rating, North America..... 1A Max

• **PHYSICAL SPECIFICATIONS, OPERATOR**

Chassis..... .090" Steel, black powder coat finish  
 High visibility yellow PVC end caps  
 Black PVC cover profiles  
 Front Panel..... .090" Aluminum, black powder coat finish  
 Chassis Width..... 14.35"  
 Chassis Height..... 4.1"  
 Chassis Depth..... 7.52"  
 Weight..... 5lbs

• **PHYSICAL SPECIFICATIONS, INTERFACE**

Chassis..... .090" Steel, black powder coat finish  
 Front & Rear Panel..... .090" Aluminum, black powder coat finish  
 Chassis Width..... 19"  
 Chassis Height..... 1RU  
 Chassis Depth..... 3.75"  
 Weight..... 4lbs



## TECHNICAL SPECIFICATIONS

### • DATA SPECIFICATIONS

Data Communications Protocol..... Modbus TCP, Ethernet

### • ENVIRONMENTAL SPECIFICATIONS

Indoor Use Only

IP Rating..... IP40


NEMA..... NEMA1

Operating Temperature Range..... 0°C to 70°C

### • CONNECTOR SPECIFICATIONS

#### E-STOP Circuit Connector


The E-Stop Circuit uses a Neutrik neutriCON 8 pin connector.

E-STOP Circuit Connector		
PIN	FUNCTION	COLOR
1	RESET A	N/A
2	Not Used	N/A
3	I5 to 14 E-Stop Link	N/A
4	I6 to 24 E-Stop Link	N/A
5	14 to 13 E-Stop Link	N/A
6	24 to 23 E-Stop Link	N/A
7	Not Used	N/A
8	Not Used	N/A

#### Master Operator Interface Remote Connector

The Master Operator Interface uses a Harting PushPull RJ45 Connector.

NOTE: This connector utilizes power over ethernet. 24vdc.

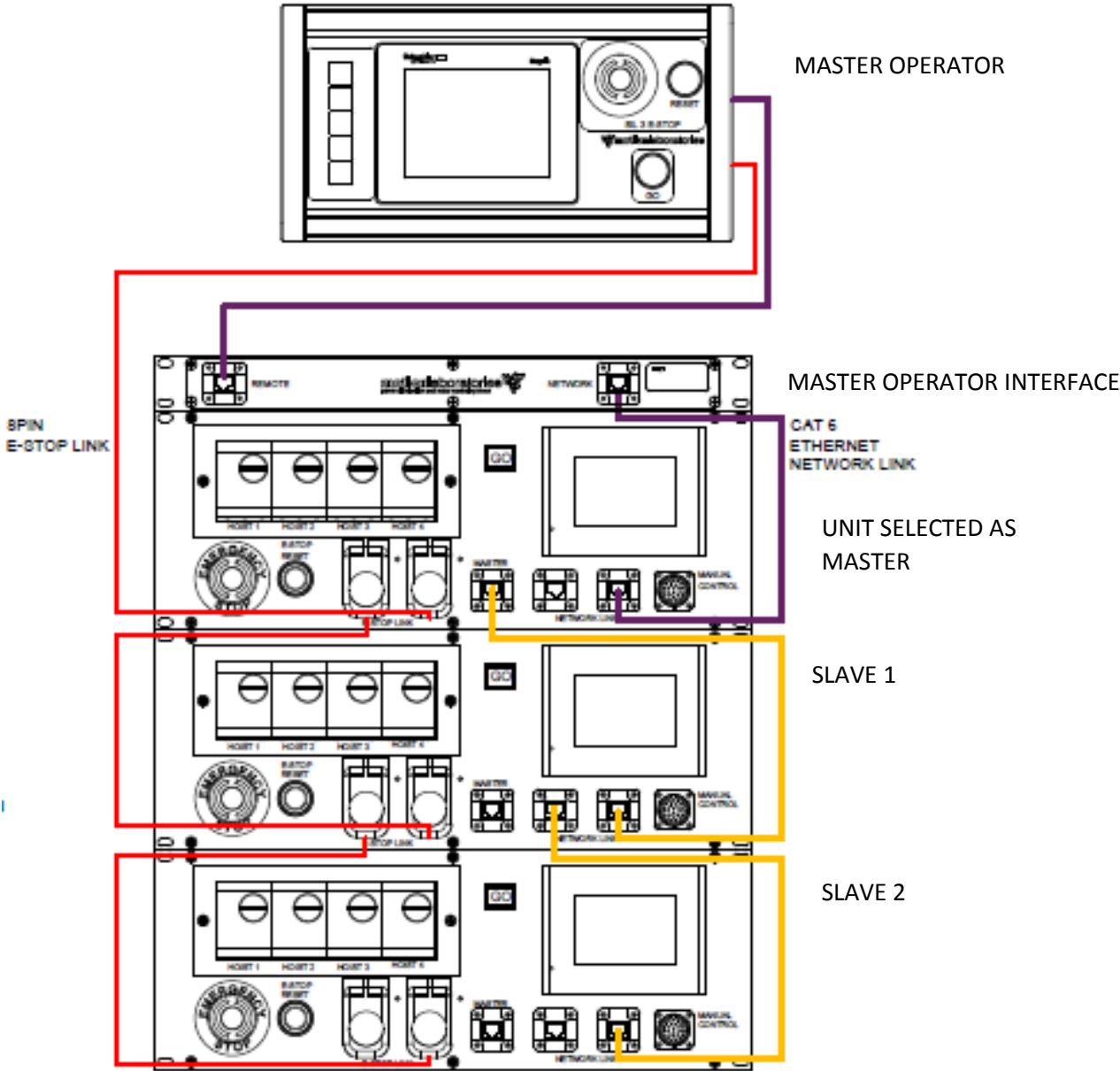
Master Operator Interface Remote Connector		
PIN	FUNCTION	COLOR
1	Rx +	N/A
2	Rx -	N/A
3	Tx +	N/A
4	DC +	N/A
5	DC +	N/A
6	Tx -	N/A
7	DC -	N/A
8	DC -	N/A



**INSTALLATION**

• **SYSTEM CONNECTIONS**

Prior to powering up the system there are cable connections that must be made in the following manner. The e-stop from the Master Operator connects to the downstream link of the unit selected for “Master Mode”. The remaining E-stop circuit simply links together as indicated by the red lines. When a control unit is placed into master mode, it connects to the remaining slave units by connecting the master port to the subsequent network connectors as indicated by the orange lines. The master operator connects to the unit selected as master through the master operator interface. These connections are network connections as shown by the violet lines.



**INSTALLATION**

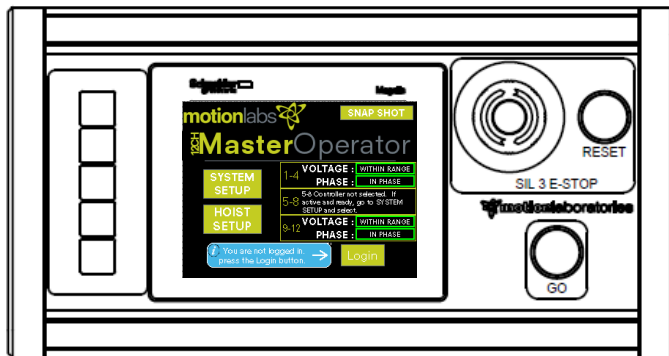
• **POWER UP**

Make sure that the master operator interface is plugged in to a power source. Turn on the Master Operator by plugging it in to the master operator interface. The power is derived from the Harting PushPull RJ45 Connector of the master operator interface.

Once the Master Operator has cycled on and booted up, the HMI will display an active E-Stop symbol and the blue reset switch will illuminate.



Press the reset switch and the active E-Stop message will disappear and the HMI will display the LOGIN HOME PAGE. If multiple units are linked via E-stop linking cables, the reset switch on any unit may be used to engage the e-stop circuit.



**INSTALLATION**

• **SETUP / CONFIGURATION**


**LOGIN – HOME PAGE**

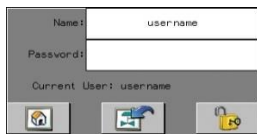


Press the Login button to open the sign in screen.



Press the “NAME” text field to enter your login name. After you initiate the “NAME” field a standard keyboard screen will pop up, type your name and hit enter. Next press the “PASSWORD” field and repeat the process to enter your login password.

Press the unlock icon  to unlock the User. You are now logged in and the current user is shown.



Press the home icon  to go to the home page.

Take note that Users must be entered into each HMI as a part of a system setup procedure. On initial startup, there are two default users and passwords provided. This is detailed in the “USER MANAGEMENT” section below.

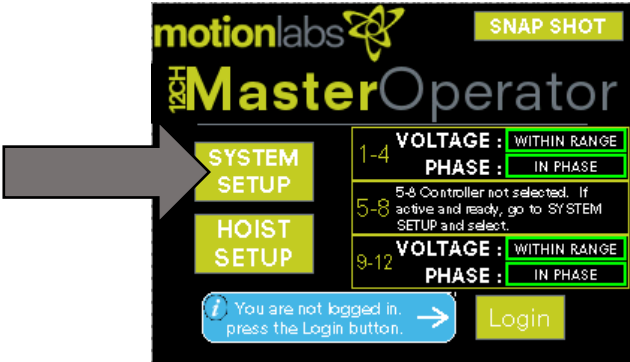
Once you are logged in, the Home page will show your security level and login name as shown below.



**INSTALLATION**

• **SYSTEM SETUP**

Press the “SYSEM SETUP” button on the Home Page to access the system setup page.



**POSITION MANAGER  
& LOAD MANAGER**

**USER MANAGEMENT & UNITS**

**MASTER OPERATOR MODE CONFIGURATION**



## INSTALLATION

The system setup page allows access to the following options:

### POSITION & LOAD MANAGERS

This allows you to enable each of these system features making them functional. Note that once enabled, the system cannot run without using the required accessories such as a load cell or position encoder unless disabled.



### UNITS

This allows you to select the default unit of measure.



### USER MANAGEMENT

This allows the addition of users and security groups.

The system comes with two preloaded users and passwords. One with user level security and one with administrator level security.

User Name	Password	Security Level
USER	USER	User Level (1)
ADMIN	ADMIN	Administrator Level (3)

\*Note – it is advisable to change the default passwords on initial startup. Add any new user information here but keep password records in a secured location.





## INSTALLATION

User level security (1) allows access to:





- The home page.
- Select and operate hoists using the HMI and GO button
- Read faults

Administrator level security (3) allows access to all program features and parameters.

Note that you must be logged in as an admin to add, remove, or otherwise edit user level information. Admins cannot be created, only the password can be changed. Pressing the USER MANAGEMENT BUTTON brings up the following page.

Security Level	<input type="text"/>	ADD- adds new user to the security group	
User	<input type="text"/>	EDIT- Edits the user (password)	
Pwd	<input type="text"/>	DELETE- Deletes the selected user	
Confirm Pwd	<input type="text"/>	EXIT- Returns to the previous page	

			
---	---	---	---

### ADD NEW USER

1. Select the security group from the drop-down list
2. Enter the new user's name in the user field.
3. Enter the new user's password into both the "Pwd" and "Confirm Pwd" field.
4. Touch the add button.

### DELETE USER (This includes Password Information)

1. Select the security group from the drop-down list
2. Select the user from the user drop -down list.
3. Touch the delete button.

### CHANGE PASSWORD

1. Select the security group from the drop-down list.
2. Select the user from the user drop-down list.
3. Enter the new password into both the "Pwd" and "Confirm Pwd" fields
4. Touch the edit button

**INSTALLATION**

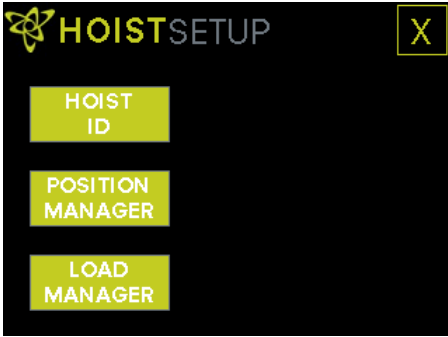
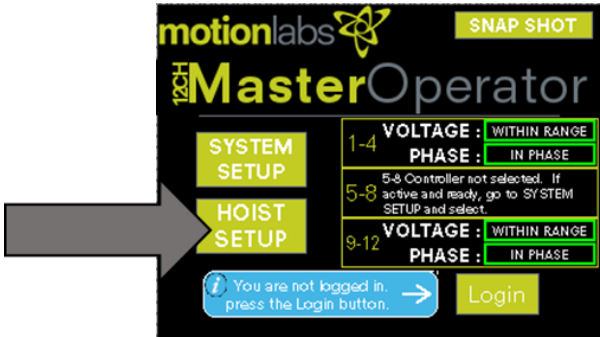
**MASTER OPERATOR MODE CONFIGURATION**



Master operator mode configuration allows you to select or deselect slave devices for operation. The slave devices must be addressed as one and two. See HSC-01 user manual for details on controller addressing. Slave address one correlates to channels 5-8 and slave address two correlates to channels 9-12.

**HOIST SETUP**

Press the “HOIST SETUP” button on the Home Page to access the hoist setup page.



Note that in the illustration shown, both the “POSITION MANAGER” and the “LOAD MANAGER” are visible and active. This can only happen if they have previously been selected “ON” from the “SYSTEM SETUP” page.

**HOIST ID**

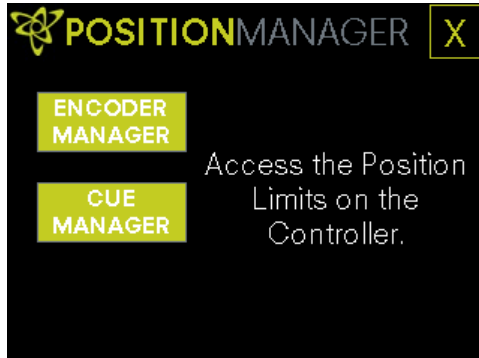


In HOIST ID you can individually name each of the hoists. These names will carry through to other pages where the hoists are named.

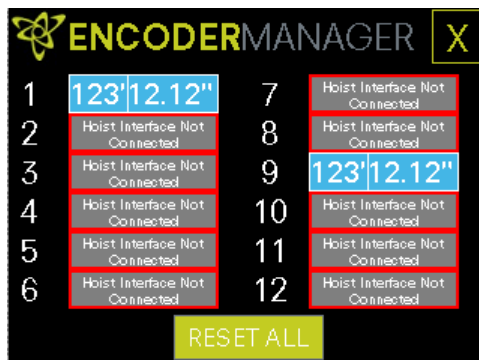
## INSTALLATION

### POSITION MANAGER

The position manager will allow you to maintain safe position for the lifting system to operate within. If active, the “POSITION MANAGER” button will navigate you to the position manager setup page. From here you can navigate to the encoder manager or cue manager. Additionally, the user will be directed to access the controller HMI to change upper or lower limits.



Press the “ENCODER MANAGER” button to access the following page.



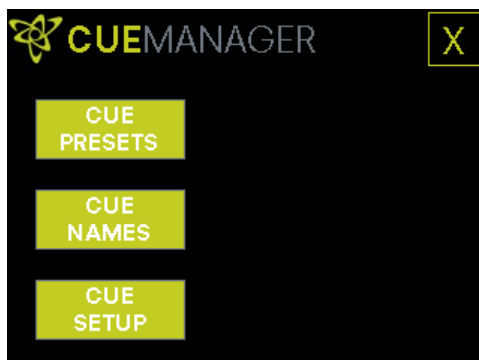
From this page you can reset the current encoder position value to zero.



#### CAUTION

This reset will be applied to all encoders! If you would like to reset individual encoders, you must do this from the Hoist Safety Controller.

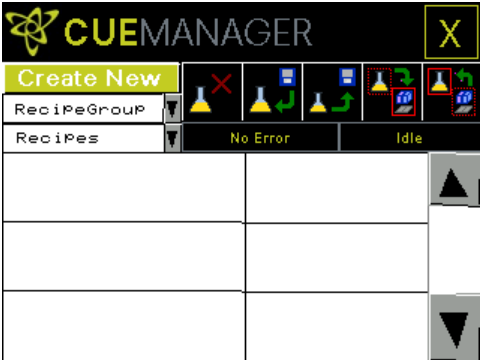
Press the “CUE MANAGER” button to access the following page.



This is the Cue Manager. This is where you can parameterize the ten preset cues of the system.

**INSTALLATION**

Press the “CUE PRESETS” button to access the following page.




The Cue Manager utilizes a recipe system to load, save and create cue presets. A recipe is a pre-defined set of data and values, which can be used to manipulate data between the target and the equipment.





**Create New** – Creates a new Recipe in the selected recipe group.


**Recipe Group** – A default dropdown list for recipe organization. Cue presets reside in “RecipeGroup1”


**Recipes** – Recipes are cue presets. Once you choose your recipe group, in this case RecipeGroup1, this dropdown will populate with all your saved recipes.

 **DELETE** – Deletes current cue preset.

 **LOAD** – Loads selected cue preset into the cue manager.

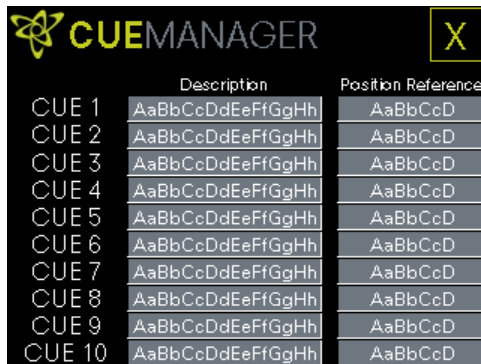
 **SAVE** – Saves cue preset in cue manager.

 **SEND** – Takes current cue preset in cue manager and loads in to the PLC for use.

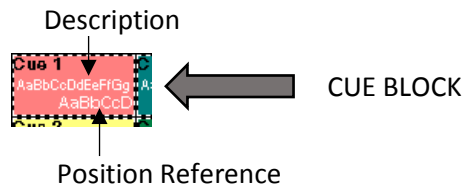
 **SNAPSHOT** – Takes current data in PLC and pushes it to the cue manager.

## INSTALLATION

Press the “CUE NAMES” button access to the following page.



	Description	Position Reference
CUE 1	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 2	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 3	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 4	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 5	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 6	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 7	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 8	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 9	AaBbCcDdEeFfGgHh	AaBbCcD
CUE 10	AaBbCcDdEeFfGgHh	AaBbCcD



Cue names are available to help define the description and position reference for each cue. These names will be displayed in the respective cue block on the Cue Control Page discussed in the Operation, Cue Control section below.

## LOAD MANAGER



The Load Manager is only accessible from the Hoist safety controller.

## • OPERATION

Prior to operation, all HSC and Master Operator system set up procedures must be completed. There are several modes of operation available with the Master Operator. As described in the overview section, the function key “RUN PAGE” toggles through the different modes of operation.

- MANUAL CONTROL
- GO TO POSITION CONTROL
- CUE CONTROL

NOTE: when pressing the Run Page button, the system will always default to the “Manual Control” first, then cycle through the progression in the order indicated above.

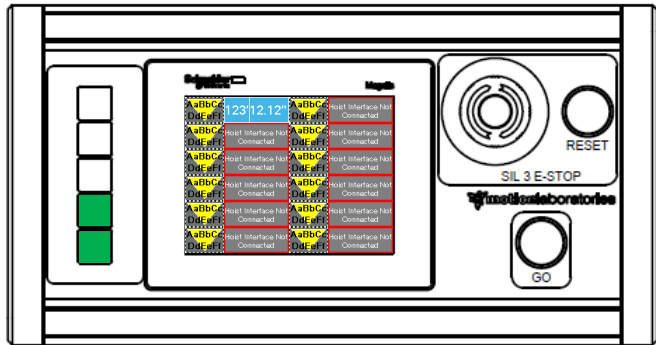
**INSTALLATION**

**MANUAL CONTROL** (Manual up and down control)

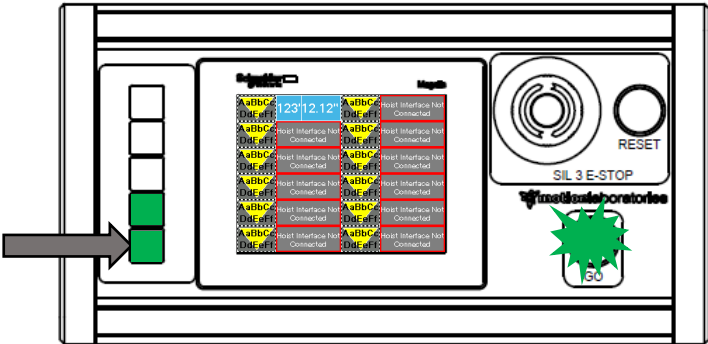
Press the “Run Page” button to access the “MANUAL CONTROL” page.

AaBbCc DdEeFf	123 12.12"	AaBbCc DdEeFf	Hoist Interface Not Connected
AaBbCc DdEeFf	Hoist Interface Not Connected	AaBbCc DdEeFf	Hoist Interface Not Connected
AaBbCc DdEeFf	Hoist Interface Not Connected	AaBbCc DdEeFf	Hoist Interface Not Connected
AaBbCc DdEeFf	Hoist Interface Not Connected	AaBbCc DdEeFf	Hoist Interface Not Connected
AaBbCc DdEeFf	Hoist Interface Not Connected	AaBbCc DdEeFf	Hoist Interface Not Connected
AaBbCc DdEeFf	Hoist Interface Not Connected	AaBbCc DdEeFf	Hoist Interface Not Connected

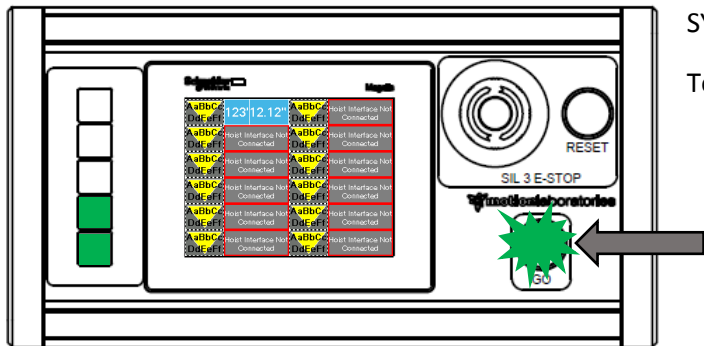
To operate the Master Operator in Manual Control, chose the intended direction of travel for all connected, desired hoists to move.



**SYSTEM READY TO ENABLE**  
The system will be ready to enable if hoist power has been turned on and the ENABLE GO button is illuminated. This button will not illuminate if no hoist selection has been made.



**ENABLING THE SYSTEM**  
Enable the system to run by pressing the ENABLE GO button.  
If the controller is in a safe operating state, then the Go Button will illuminate green.



**SYSTEM READY TO RUN**  
To run the system, press the Go Button.

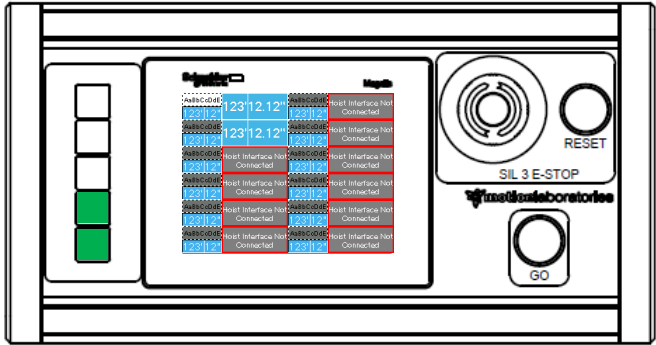
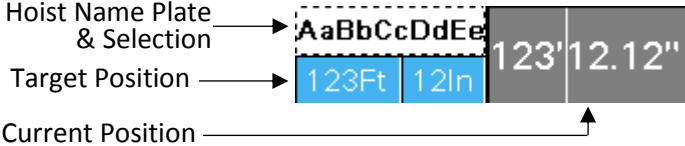
**INSTALLATION**

**GO TO POSITION CONTROL**

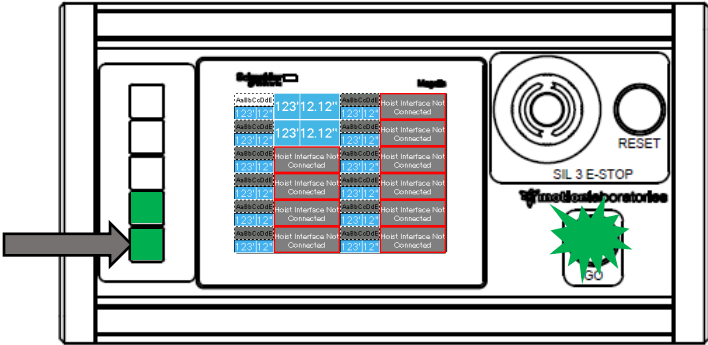
Depending on where you are, toggle the “Run Page” button as many times as necessary to navigate to “GO TO POSITION CONTROL” page.

AaBbCcDdEe	123'12.12"	AaBbCcDdEe	Hoist Interface Not Connected
123'12"	123'12.12"	123'12"	Hoist Interface Not Connected
AaBbCcDdEe	123'12.12"	AaBbCcDdEe	Hoist Interface Not Connected
123'12"	Hoist Interface Not Connected	123'12"	Hoist Interface Not Connected
AaBbCcDdEe	Hoist Interface Not Connected	AaBbCcDdEe	Hoist Interface Not Connected
123'12"	Hoist Interface Not Connected	123'12"	Hoist Interface Not Connected
AaBbCcDdEe	Hoist Interface Not Connected	AaBbCcDdEe	Hoist Interface Not Connected
123'12"	Hoist Interface Not Connected	123'12"	Hoist Interface Not Connected
AaBbCcDdEe	Hoist Interface Not Connected	AaBbCcDdEe	Hoist Interface Not Connected
123'12"	Hoist Interface Not Connected	123'12"	Hoist Interface Not Connected

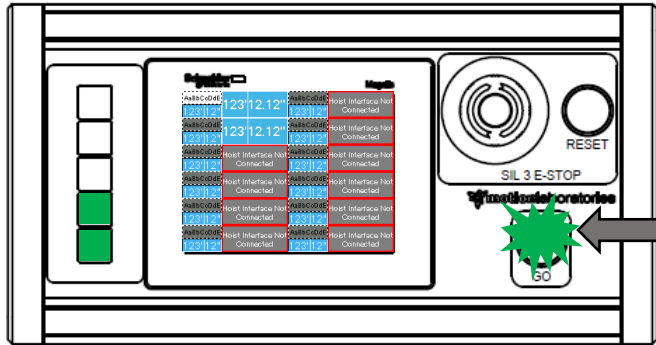
Chose the intended hoist(s) to run by pressing on the grey name plate of the intended hoist. By doing so the name plate will turn white. Below the name plate you may enter the feet and inches of you target position. To the right of the name plate and target position is the current position.



**SYSTEM READY TO ENABLE**  
The system will be ready to enable if hoist power has been turned on and the ENABLE GO button is illuminated. This button will not illuminate if no hoist selection has been made.



**ENABLING THE SYSTEM**  
Enable the system to run by pressing the ENABLE GO button.  
  
If the controller is in a safe operating state, then the Go Button will illuminate green.



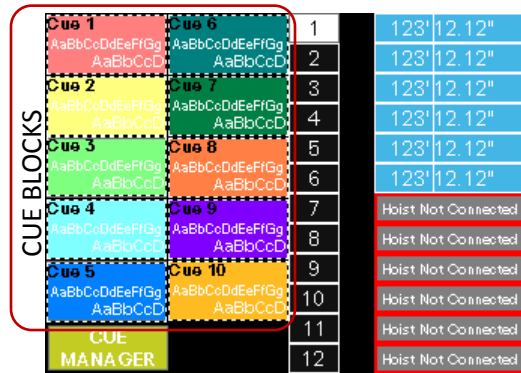
**SYSTEM READY TO RUN**  
To run the selected chain hoist to their target position, press the illuminated GO button and hold till they reach their desired position and stop.



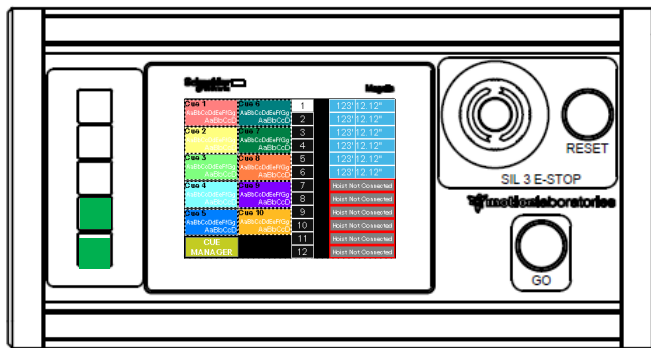
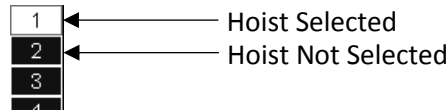
## INSTALLATION

### CUE CONTROL

Depending on where you are, toggle the “Run Page” button as many times as necessary to navigate to the “CUE CONTROL” page.

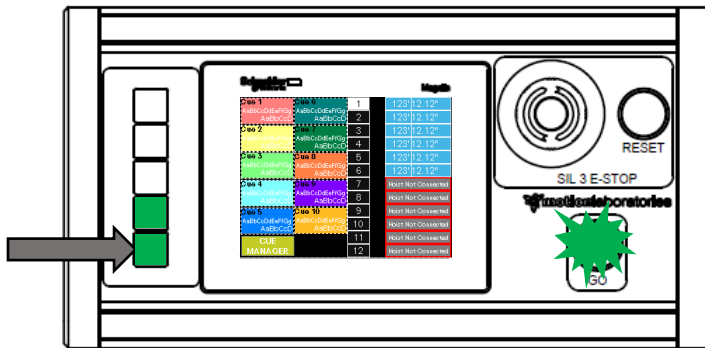


Chose the intended hoist(s) to run by pressing the black channel number buttons in between the cue buttons and the current hoist position. By doing so the channel number button will turn white. Next choose the cue that you would like to run to by pressing the Cue Block.



#### SYSTEM READY TO ENABLE

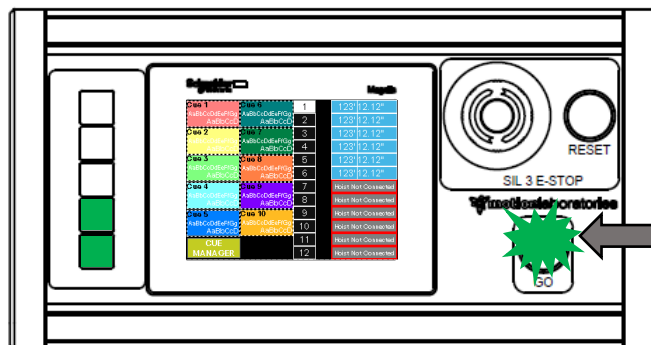
The system will be ready to enable if hoist power has been turned on and the ENABLE GO button is illuminated. This button will not illuminate if no Cue Block selection has been made.



#### ENABLING THE SYSTEM

Enable the system to run by pressing the ENABLE GO button.

If the controller is in a safe operating state, then the Go Button will illuminate green.



#### SYSTEM READY TO RUN

To run the selected chain hoist to their target position, press the illuminated GO button and hold till they reach their desired position and stop.



**1.800.227.6784** FOR MORE INFORMATION  
<http://www.motionlabs.com/>

520 Furnace Dock Road . Cortlandt Manor, New York 10567 . Phone: (914)788-8877 Fax: (914)788-8866

## INSTALLATION

### • FAULTS

Here is a Fault Table listing all the possible faults, causes, and remedies to help recover from fault states.

FAULT	CAUSE
EMERGENCY STOP ACTIVE	An Emergency Stop button has been pressed or an Emergency Stop Link cable has been unplugged or An Emergency Stop Link door has been opened.
HOIST DISCONNECTED	If a hoist has been selected, the system has been enabled and the current sensed from the control transformer within the hoist has been lost.
HOIST UNDER WEIGHT	LOAD MANAGER TURNED ON. If a hoist has been selected, the system has been enabled, the load cell is connected, go command is pressed, and the weight reading is under the set limit after the weight filter timer has passed.
HOIST OVER WEIGHT	LOAD MANAGER TURNED ON. If a hoist has been selected, the system has been enabled, the load cell is connected, go command is pressed, and the weight reading is over the set limit after the weight filter timer has passed.
HOIST LOAD CELL DISCONNECTED	LOAD MANAGER TURNED ON. If a hoist has been selected, the system has been enabled, and the hoist's load cell has been disconnected.
HOIST DIRECTION DISCREPANCY	POSITION MANAGER TURNED ON. If a hoist has been selected, and the encoder value is counting in the opposite direction of the selected direction. A stand still after run command will cause this fault as well depending on the time in the code
HOIST MOVEMENT w/ NO COMMAND	POSITION MANAGER TURNED ON. If a hoist encoder value changes while the system is not enabled and running.
HOIST UP RELAY MALFUNCTION	If a hoist has been selected to run up, the system has been enabled, a run command has been activated and there is no feedback of the up relay to the PLC.
HOIST DOWN RELAY MALFUNCTION	If a hoist has been selected to run down, the system has been enabled, a run command has been activated and there is no feedback of the down relay to the PLC.
HOIST INTERFACE DISCONNECTED	If a hoist has been selected, the system has been enabled and a serial communication error has been triggered for the selected hoist.
PHASE ROTATION OUT OF	The Phase detection monitor has detected a fault in phase rotation.
INPUT VOLTAGE FAULT	The Voltage Monitor has detected a voltage outside of the operating range.
GO COMMAND RELAY MALFUNCTION	If the go command relay has been engaged and there is no feedback to the PLC or the relay has not been engaged and there is feedback to the PLC.
CONTACTOR ENABLE RELAY MALFUNCTION	If the contactor enable relay has been engaged and there is no feedback to the PLC or the relay has not been engaged and there is feedback to the PLC.
HOIST INTERFACE HUB DISCONNECTED	If the system has been enabled to run and communication to the Data Collection Hub has been lost.
HOIST COMMAND W/ NO MOVEMENT	POSITION MANAGER TURNED ON. If a hoist has been selected, the system has been enabled, a run command has been activated and the respective encoder value does not change.
COMMUNICATION WITH SLAVE LOST	If the unit is in master mode and configured to be connected to a slave. Communication has then been lost between the master and slave unit.
LOST COMMS TO MASTER	If the unit is in slave mode and configured to be connected to a master. Communication has then been lost between the master and slave unit.



## RELATED PRODUCT LINE COMPONENTS

### Hoist Safety Controller

MLI Part Number	Description
1261-4-F-J-1313-01	4 Channel Portable SoftLimit Control System, L21-20 input, C7-30 Motor Out, SIL 3 Rated Estop, SIL 3 rated Stop and Go, 4RU Rack Mounted, Rated for NA
1261-4-F-J-1414-01	4 Channel Portable SoftLimit Control System, L21-20 input, P-14-01 Motor Out, SIL 3 Rated Estop, SIL 3 rated Stop and Go, 4RU Rack Mounted, Rated for NA
1261-4-H-X2-1313-01	4 Channel Portable SoftLimit Control System, IEC 309 16A input, C7-30 Motor Out, SIL 3 Rated Estop, SIL 3 rated Stop and Go, 4RU Rack Mounted, Rated for EU
1261-4-H-X2-1414-01	4 Channel Portable SoftLimit Control System, IEC 309 16A input, P-14-01 Motor Out, SIL 3 Rated Estop, SIL 3 rated Stop and Go, 4RU Rack Mounted, Rated for EU

### Safety Hoists

Motion Labs can modify any new electric chain hoist to be used in this system. For more information please call us.

### Data Collection Hub (DCH)

MLI Part Number	Description
A-17-011-0001	HSC, Data Collector, 4 Hoist, Modbus RTU

### Cable

MLI Part Number	Description
1400-06-60-XX-008	Cable, Data, CAT6, XXft, Harting PushPull Ethernet RJ45, Yellow
1426-09-45-745-1527	Cable Assembly, Harting PushPull, 5Meter, Yellow
1426-09-45-745-1553	Cable Assembly, Harting PushPull, 20Meter, Yellow

## MAINTENANCE

---

- **INSPECTIONS**

Maintenance and inspections should be carried out by competent personnel. The HSC system components require very little in the way of maintenance.

Check units for loose or missing hardware.

Clean front panel HMI as needed.

Check electrical connections on system cables.

Verify that all switches, doors and connection points are operating easily and as intended.

Verify E-stop system operation.



## SPARE PARTS AND DISPOSAL

---

- **SPARE PARTS**

Only original spare parts may be used. Motion Laboratories Inc. cannot be held responsible for failures and breakdowns caused by the use of non-OEM or incorrect spare parts.

In case of necessity, please contact:

**Motion Laboratories Inc.**

520 Furnace Dock Road, Cortlandt Manor, NY 10567, USA

TEL: 800.277.6784 | TEL: +1 (914) 788-8877 | FAX: +1 (914) 788-8866

[www.motionlabs.com](http://www.motionlabs.com)

