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We Manufacture Solutions For Your Challenges

Warden

Cell*Mate System

USER MANUAL

Warden & Console

Warden
A-17-004-0003
TSOS Console
A-17-005-0003

This Cell*Mate System is intended for professional use only
Read this entire document before installing operating or using this Cell*Mate System

■ORIGINAL INSTRUCTIONS

Part Number: A-17-004-0003
Release: October 2018

Original Instructions
Cell*Mate™ Warden System
Rev ORG
Released 10-2018

- **USER DOCUMENTATION**

WARNING

Before installing and operating the Warden Cell*Mate System, 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 legible condition and replace missing or damaged labels.

REGIONAL CONTACTS

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- **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 Warden Cell*Mate System and Touch Screen Operation Systems (TSOS):
A-17-004-0003
A-17-005-0003

Table of Contents

- **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 hoists without a clear view of the load or reliable communication with an observer.
Do NOT operate hoists unless the hazard zone has been cleared.
Do NOT operate system until a full risk assessment for your particular application has been completed.
Do NOT operate system until all safety conditions have been assessed.
Do NOT operate system until the E-stop system has been connected and tested.
Do NOT operate system unless all operators and observers have been informed of the location of all Emergency Stop (E-stop) switches.
Do NOT connect multiple Wardens from a single Cell*Mate Hub.
Do Not make "Y" cables or try to home run cables to separate Cell*Mate Displays and or Warden from a Cell*Mate Hub.

- **GENERAL SAFETY INFORMATION**

This 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 on the manufacturer's website: 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**

The Cell*Mate Warden System operates at high voltages. 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 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 Cell*Mate Warden System has setup and configuration for safe and reliable operation. It is imperative that the user read and understand the instructions contained in this manual before attempting to operate.

CAUTION

There are two modes of operation. Setup Mode which means the system is “online” and ready to operate. All parameters are available and once set will be functional. ‘In Setup’ means the system has been functionally bypassed.

DANGER

Make sure during installation that the Channel 1 Hoist and Load Cell, are properly connected to the correct channel of the Chain Hoist Controller and Warden. Crossed channels or incorrect patching can lead to incorrect readings and hazardous conditions.

- **PRODUCT DEFINITION**

The Warden will interrupt up and/or down commands to the Chain Hoist Control System based on data provided by the Cell*Mate Hub matched against user defined limits. The Warden will maintain this control on any/all channels that are integrated into the system. Channels of control without a Load Cell will not operate.

The Warden will:

React to overweight conditions by stopping all movement and then prevent upward movement of any overweight channel(s).

React to underweight conditions by stopping all movement and then prevent downward movement of any underweight channel(s).

Allow for user correction or 'recovery'. This will allow the user to move underweight channels up and overweight channel down.

- **PRODUCT PERFORMANCE**

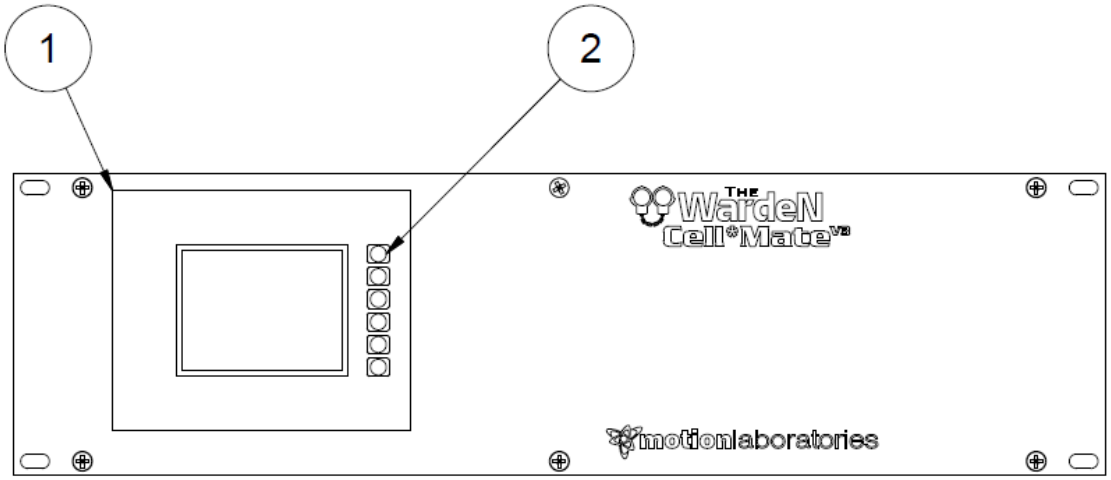
The Cell*Mate Warden/Console identified in this manual monitor the following criteria:

- E-Stop circuit; the console has E-Stop functions locally.
- Hoist Weight; the Warden & console displays weight feedback from the system.

The Cell*Mate Warden/Console identified in this manual have the following features:

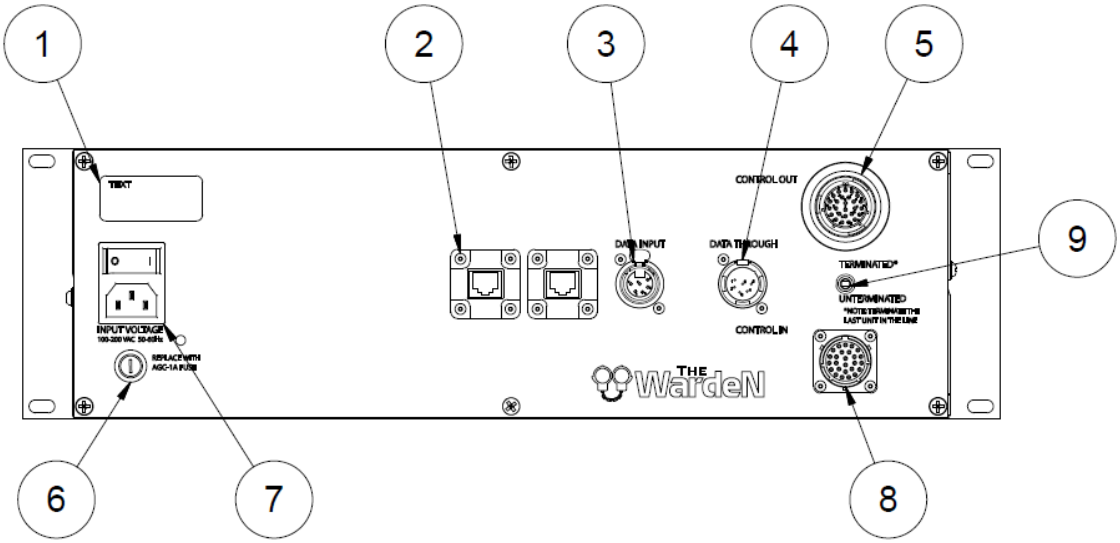
- Manual Hoist Control.
- Controlled Weight Shutdown.

- **WARDEN, FRONT**



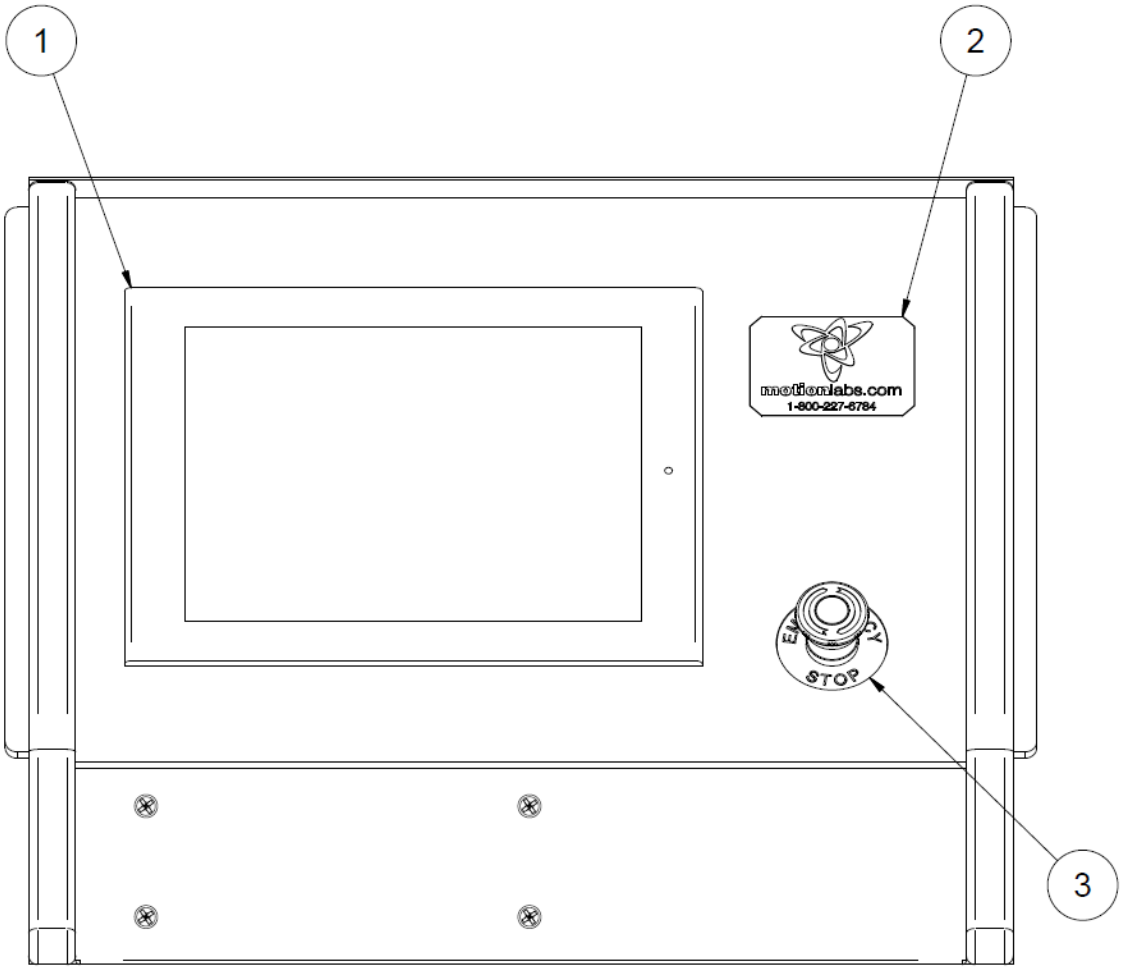
1. **HMI (Human Machine Interface).**
2. **Function Keys.**

- **WARDEN, REAR**



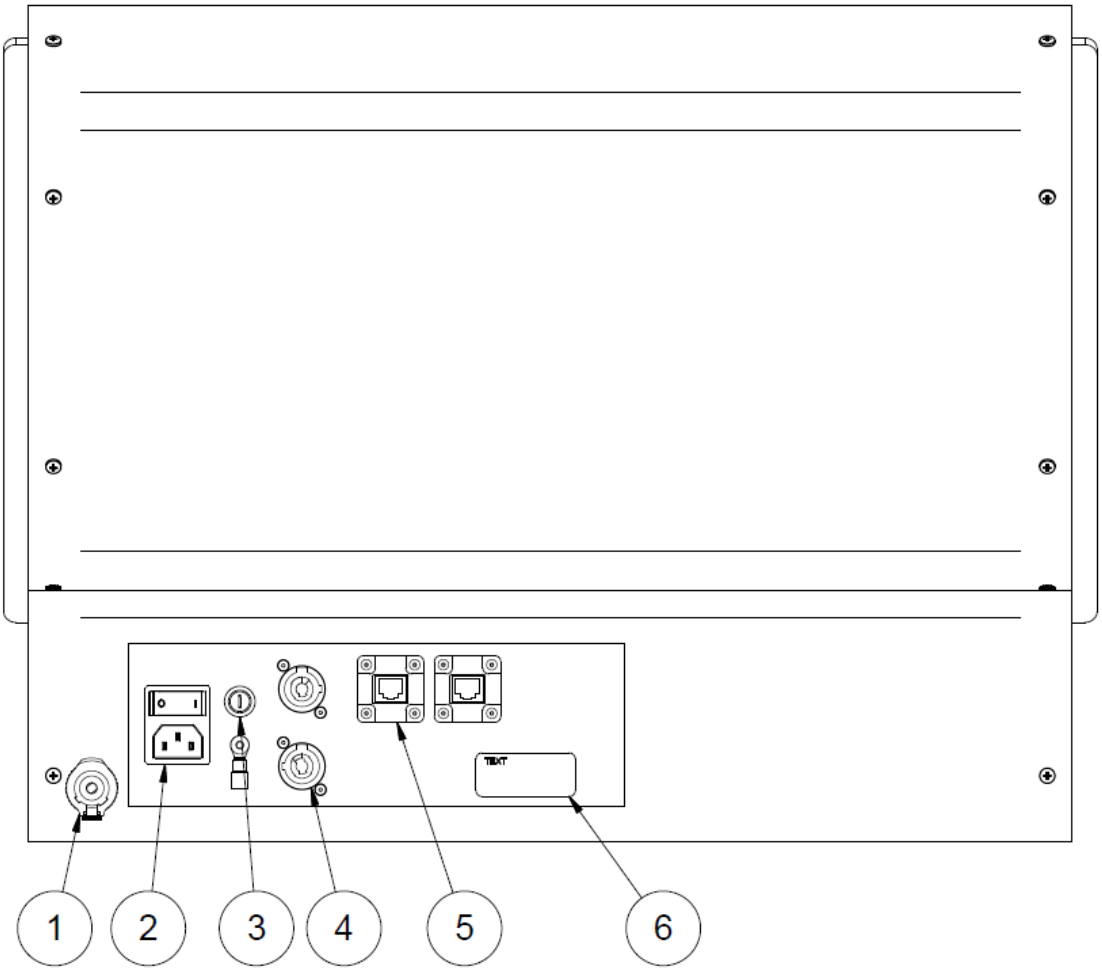
1. **Label.**
2. **Network Connection.**
3. **Cell*Mate Hub Data Input.**
4. **Cell*Mate Hub Data Through.**
5. **P26 Control Out.**
6. **Fuse.**
7. **Input Connector & On/Off Switch.**
8. **P26 Control In.**
9. **Termination Switch.**

- **TOUCH SCREEN OPERATING SYSTEM, CONSOLE, FRONT**



1. **HMI (Human Machine Interface).**
2. **Logo Plate.**
3. **Emergency Stop Button.**

- **TOUCH SCREEN OPERATING SYSTEM, CONSOLE, REAR**



1. **Shorting Plug.**
2. **Input Connector & On/Off Switch.**
3. **Fuse**.
4. **Emergency Stop Link.**
5. **Network Connection.**
6. **Label.**

- **PART NUMBERS**

PART NUMBER CONFIGURATION						
GROUP		**CATEGORY**		**SUBDIVISION**		**ID NUMBER**
A = Top Level Assembly	-	17 = Rigging Electronics	-	004 = Warden 005 = HMI Touch Screen Operating System (TSOS)	-	xxx = Iteration

PART NUMBER TABLE		
Part Number	**Type**	**Description**
A-17-004-0003	WARDEN	The Warden PLC Control System, Display, Blue
A-17-005-0003	TSOS	The Warden PLC Control System, Touch-Screen Operating System, HMI 12" with Enclosure

- **SYSTEM CAPACITY**

The Cell*Mate Warden System in this manual can run 1 to 8 chain hoists and monitor 1 to 8 Cell*Mate Load*Cells. The TSOS in this manual can run up to 4 Wardens. Custom TSOS solutions can run up to 8 Wardens.

- **ELECTRICAL SPECIFICATIONS, WARDEN**

Input Power..... 100 - 120VAC 1 Phase
Frequency..... 60Hz
Current Rating..... 3A max

- **ELECTRICAL SPECIFICATIONS, TOUCH SCREEN OPERATING SYSTEM, CONSOLE**

Input Power..... 100 - 120VAC 1 Phase
Frequency..... 60Hz
Current Rating..... 3A max

- **PHYSICAL SPECIFICATIONS, WARDEN**

Chassis..... .090” Steel, black powder coat finish
Front Panel..... .125” Aluminum, blue powder coat finish
Rear Panel..... .090” Aluminum, blue powder coat finish
Chassis Width..... 19”
Chassis Height..... 3RU
Chassis Depth..... 15”
Weight..... 30 lbs.

- **PHYSICAL SPECIFICATIONS, TOUCH SCREEN OPERATING SYSTEM, CONSOLE**

Chassis…….. .090” Steel, black powder coat finish
Front Panel…….. .250” Boltaron, black
Side Panels…….. 1” HDPE, Black Textured
Chassis Width…….. 19.82”
Chassis Height…….. 5.49”
Chassis Depth…….. 11.75”
Weight…….. 30 lbs.

- **DATA SPECIFICATIONS**

Data Communication Protocol, TSOS to Cell*Mate Warden…….. Modbus TCP
Data Communications Protocol, Cell*Mate Warden to Cell*Mate Warden…….. Modbus TCP

- **ENVIRONMENTAL SPECIFICATIONS**

Indoor Use Only
IP Rating…….. IP40
NEMA…….. NEMA1
Operating Temperature Range…….. 0°C to 70°C

- **CABLE SPECIFICATIONS**

DATA CABLE

The Data Cable uses Harting RJ45 PushPull connectors with Cat6 cable. Cable is an MLI product, part number 1002-09-45-600-0522

Console RJ45 PushPull Connector		motionlabs
PIN	FUNCTION	COLOR
1	Rx +	N/A
2	Rx -	N/A
3	Tx +	N/A
4	-	N/A
5	-	N/A
6	Tx -	N/A
7	-	N/A
8	-	N/A

LOAD*CELL CABLE

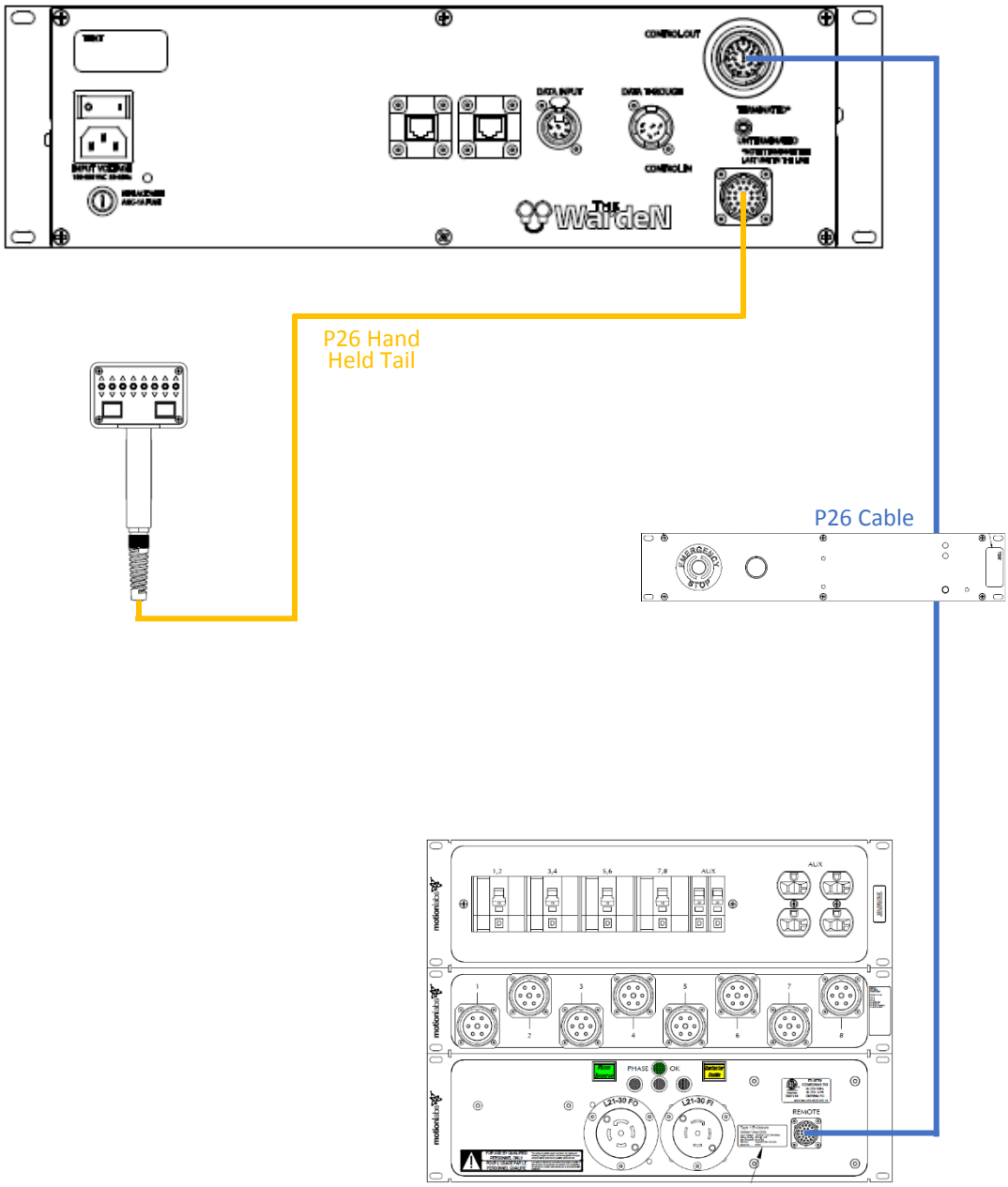
The Load*Cell Cable uses Neutrik 6 Pin XLR connectors with MLI Encoder Cable. Cable is an MLI product, part number 1500-50-00-01-001. It is 22/6, 3 twisted pair, foil, braided, with drain.

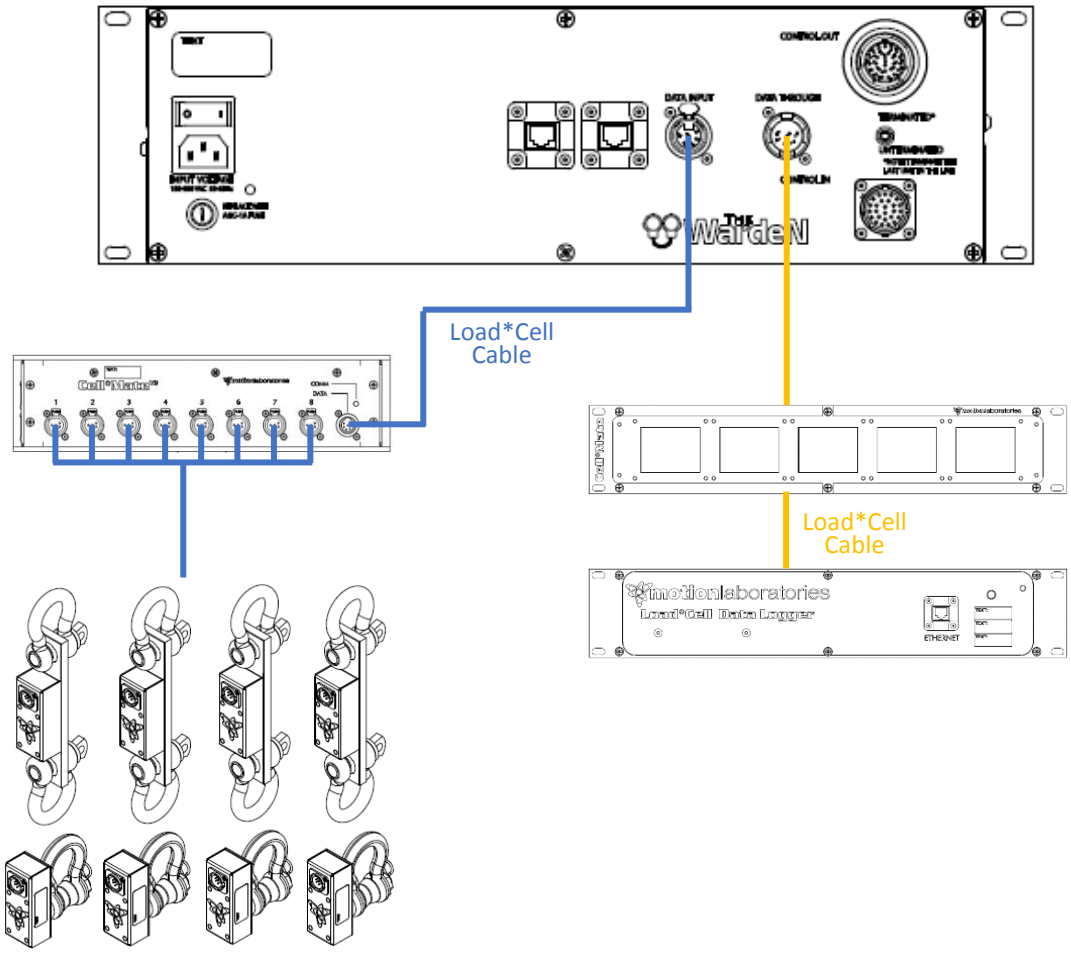
DATA CABLE		motionlabs
PIN	FUNCTION	COLOR
1	VDC +	Pink
2	0VDC	Grey
3	TX+	White
4	TX-	Brown
5	RX-	Green
6	RX+	Yellow

- **SYSTEM CONNECTIONS**

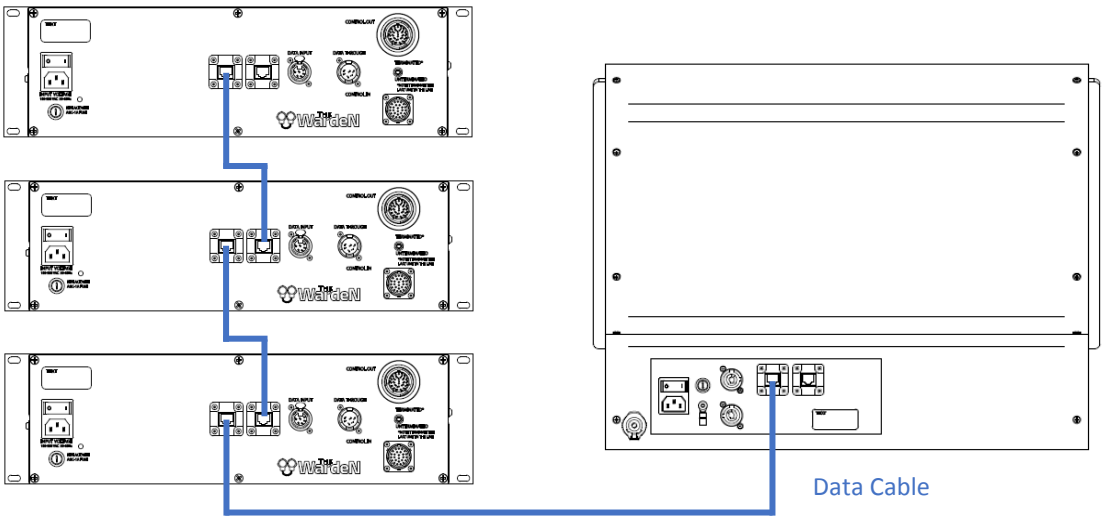
Note: System connections details all cable connections related to Cell*Mate Warden. Please refer to the System Schematic for other connections in the system.

WARDEN

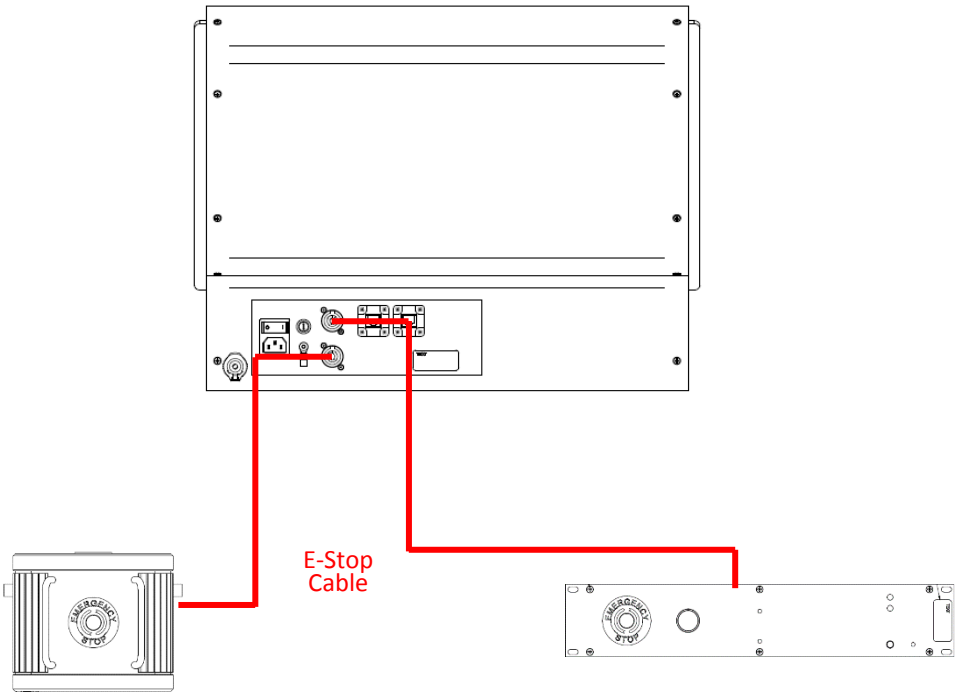




WARDEN / CONSOLE



CONSOLE



- **POWER UP**

When you first power up the Warden connected load cells will indicate a numerical weight value during normal operation. If a Load Cell is not connected to a channel or a cable fault exists, the corresponding channel will show no weight. Using less than 8 Load Cells does not affect The Warden, however any channel that does not have a connected Load Cell will be inoperable.

- **SETUP & CONFIGURATION, WARDEN**

USER MANAGEMENT

This allows the addition of users and security groups.

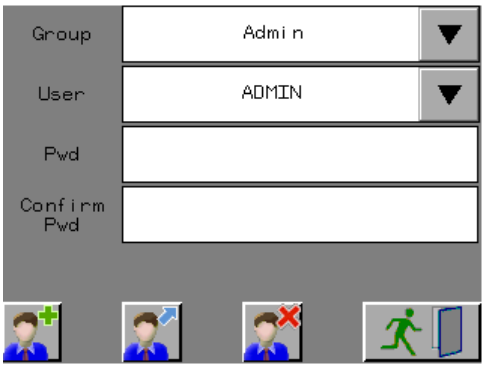
The system comes with one preloaded user and password with administrator level security.

User Name	Password	Security Level
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 secure location.

There is only Administrator level security (3). This allows access to all program features and parameters.

Note that you must be logged in as an administrator 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:



ADD- adds new user to the security group 

EDIT- Edits the user (password) 

DELETE- Deletes the selected user 

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

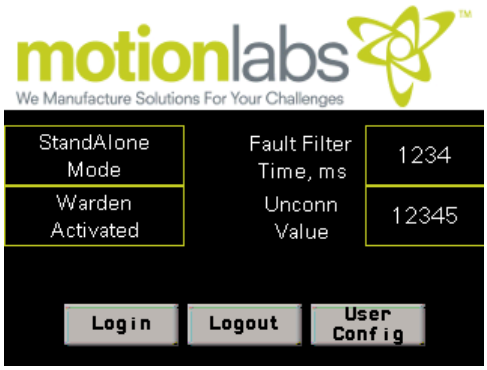
1. Select the security group from the drop-down list.
2. Select the user from the user drop-down list.
3. Enter the new password into both the “Pwd” and “Confirm Pwd” fields
4. Touch the edit button

LINE TERMINATION

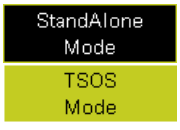
A termination switch is provided to correct the line impedance in the RS485 data cable. This requires that the last device in the data path be terminated.

If only a Warden is used it is the last device and must be terminated. When multiple Cell*Mate Displays are added, only the last one in the chain should be terminated, all others shall have the switch set to the un-terminated position.

SETUP PAGE



Mode - The Warden may be placed back into two modes by pressing the ‘Standalone Mode/TSOS Mode’ button. Standalone Mode is used when you have a single Warden. TSOS Mode is used when operated in the Warden with a TSOS (Touch Screen Operating System). To operate multiple Wardens together you MUST have a TSOS and all Wardens MUST be in TSOS Mode.



Standalone Mode

TSOS Mode

Warden Activated - You can place the Warden into Warden Deactivated mode by pressing the Warden Activated button which will allow the user to perform any unrestricted movement. When you click the Warden Activated button the icon will highlight and go into Warden Deactivated mode. The Warden may be placed back into Warden Activated mode by pressing the 'Warden Activated button putting the system back into operating mode with all parameters active.

Warden Activated

Warden Deactivated

CAUTION

Remember that until the system is placed into 'Warden Activated' mode, the weight monitoring functions will only display on the front panel. Failure to place in 'Warden Activated' mode will defeat the operating ability of the Warden

Fault Filter Time - setting will place an operational delay on shutdown to account for any errant information or shock peaks. The recommended setting for this is 400ms.

Unconn Value - The unconnected value is determined by the Cell*Mate System in use. For All V3 systems the value should be 65500. These are the numeric values the Cell*Mate Hub sends out if a Load Cell is not connected.

SETTING LIMITS

CAUTION

Remember the value you set as an upper limit is the operating value. If this value is reached the Warden will stop all movement.

CAUTION

Remember the value you set as an lower limit is the operating value. If this value is reached the Warden will stop all movement.

CAUTION

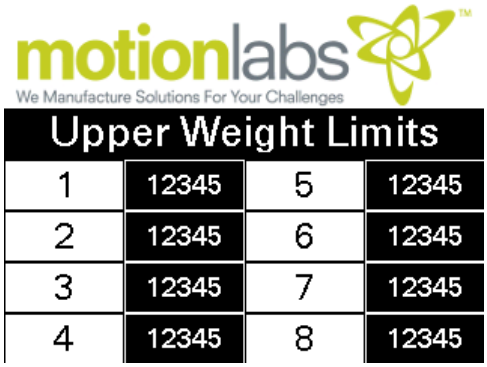
The Warden is intended to provide overload protection for rigging points and as such, these settings are critical. An overlooked setting could result in the system not performing properly.

CAUTION

These settings should not be higher than the lifting capacity of the hoist or the rating of the anchorage point whichever is lower.

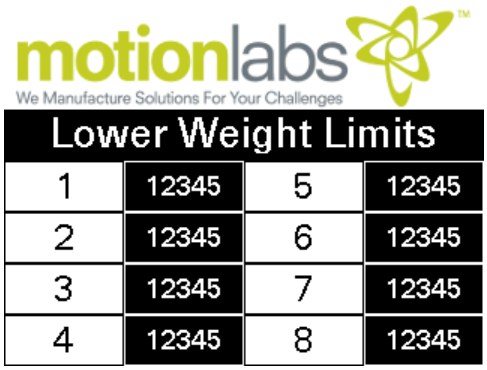
UPPER LIMITS

Press the F4 function key. This will bring up the Upper Weight Limits page. Here you can press on the weight box for the Hoist and change is value.



LOWER LIMITS

Press the F5 function key. This will bring up the Lower Weight Limits page. Here you can press on the weight box for the Hoist and change is value.



- **SETUP & CONFIGURATION, TSOS**

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)

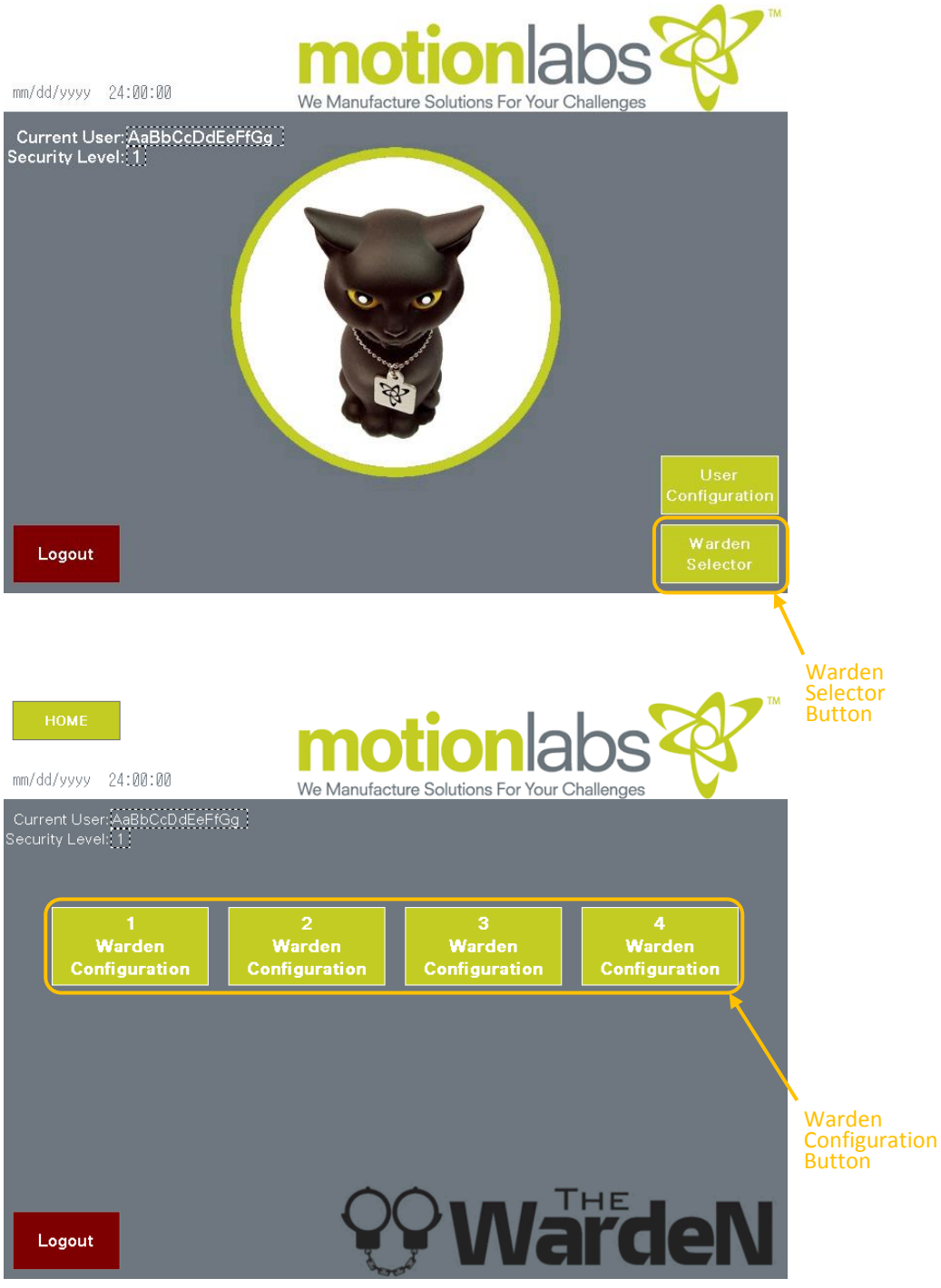
*Note – it is advisable to change the default passwords on initial startup. Add any new user information here but keep password records in a secure location.

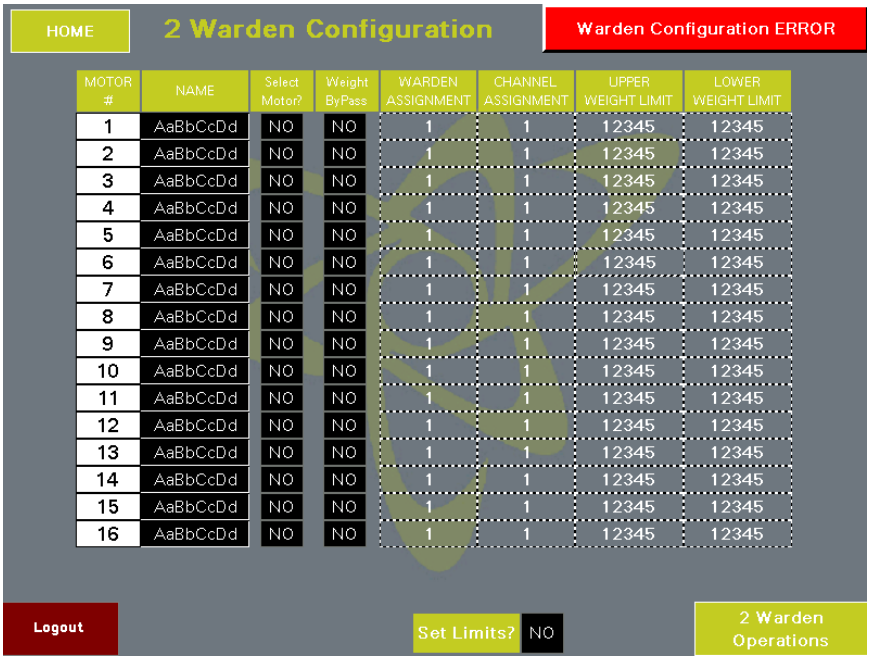
Administrator level security (3) allows access to all program features and parameters.

Please see SETUP & CONFIGURATION, WARDEN\USER MANAGEMENT for user management process.

CONFIGURATION

To Configure the TSOS you must be logged into an administrator level login. Press the Warden Selector button. Then press the Warden Configuration button for the number of wardens you will be configuring.





MOTOR #	NAME	Select Motor?	Weight ByPass	WARDEN ASSIGNMENT	CHANNEL ASSIGNMENT	UPPER WEIGHT LIMIT	LOWER WEIGHT LIMIT
1	AaBbCcDd	NO	NO	1	1	12345	12345
2	AaBbCcDd	NO	NO	1	1	12345	12345
3	AaBbCcDd	NO	NO	1	1	12345	12345
4	AaBbCcDd	NO	NO	1	1	12345	12345
5	AaBbCcDd	NO	NO	1	1	12345	12345
6	AaBbCcDd	NO	NO	1	1	12345	12345
7	AaBbCcDd	NO	NO	1	1	12345	12345
8	AaBbCcDd	NO	NO	1	1	12345	12345
9	AaBbCcDd	NO	NO	1	1	12345	12345
10	AaBbCcDd	NO	NO	1	1	12345	12345
11	AaBbCcDd	NO	NO	1	1	12345	12345
12	AaBbCcDd	NO	NO	1	1	12345	12345
13	AaBbCcDd	NO	NO	1	1	12345	12345
14	AaBbCcDd	NO	NO	1	1	12345	12345
15	AaBbCcDd	NO	NO	1	1	12345	12345
16	AaBbCcDd	NO	NO	1	1	12345	12345

The Warden Configuration page is where you will be setting up the system. Details below will be per column.

MOTOR #: The location of the motor on the operations page. Locations are displayed from left à right (8 motors per row).

NAME: Allows the user to enter their own text to label the motors.

SELECT MOTOR: This will activate the motor in the operations page and allow the user to control the hoist.

WARDEN ASSIGN: Warden Number this motor will be plugged into.

CHANNEL ASSIGN: Channel Number this motor will be plugged into.

UPPER WEIGHT LIMIT: Maximum operating weight limit.

LOWER WEIGHT LIMIT: Minimum operating weight limit.

First determine if you are using all the channels of control and turn on the corresponding motors. In the Select Motor column you toggle between YES/NO. Verify that any motor that will be controlled with the TSOS is selected, 'YES'. You should also name the motors at this point.

Now that the motors are selected for operation you must program them to the appropriate Warden and Channel assignment.

NOTE: Please pay close attention when programming the Warden and Channel assignment. You MUST have the same motor and Load Cell plugged into the corresponding channel on the Motor Controller, Cell*Mate Hub and Warden.

Example #1 – Let's say that you are setting up your system to run with a single Warden set-up. It is fairly straight forward. Look at the motor that is plugged into channel one of the controllers. You MUST have the corresponding Load Cell plugged into channel 1 of the Cell*Mate Hub and insure that the Cell*Mate Hub is plugged into the Warden #1.

The TSOS must be programmed for Warden 1~ Channel 1.

Example #2 – We have a 2-WardeN setup with a 16 Channel Controller. We will use the motor that is plugged into channel 1 of the Motor Controller. You MUST have the corresponding Load Cell plugged into channel one of the Cell*Mate Hub #1 and insure that the Cell*Mate Hub is plugged into the Warden #1. The TSOS must be programmed for Warden 1~Channel 1.

Next, we will take the motor that is plugged into channel 12 of the Motor Controller. You MUST have the corresponding Load Cell plugged into channel 4 of the Cell*Mate Hub #2 and insure that the Load Cell Hub is plugged into the Warden #2. The TSOS must be programmed for Warden 2~Channel 4.

You will notice on the top right on the Warden Configuration page the Warden Configuration OK / ERROR.

Warden Configuration OK

Warden Configuration ERROR

This is designed to assist the user in setting up the system. Once you have selected the motors for operation this message window helps determine if there are any errors. You cannot have more than one motor assigned to the same Warden and Channel assignment. If there are no duplicate entries on selected motors you will see 'Warden Configuration OK' in green. If there is a duplicate entry, the 'Warden Configuration ERROR' will be displayed in red.

Program the 'Upper Weight Limit' by pressing the number associated with that motor and change to the desired maximum operating weight.

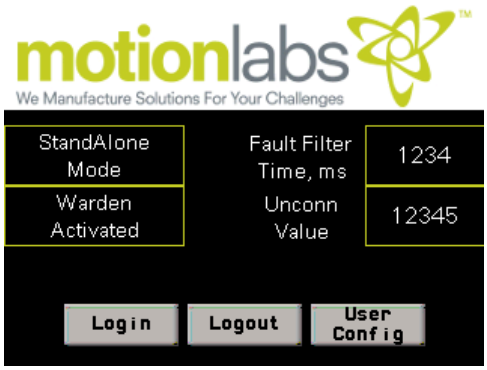
Program the 'Lower Weight Limit' by pressing the number associated with that motor and change to the desired minimum operating weight.

On the bottom of the screen you will notice 'Set Limits' that can be toggled between YES/NO. When in the 'YES' mode, the system uses the limits that you have set in the previous steps. If you select 'NO', the system will use the limits that are set in each individual unit.

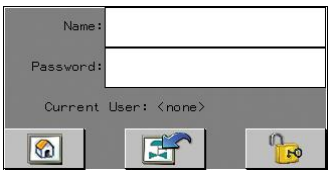
Once all programming is complete and 'Warden Configuration OK' is displayed click the Warden Operations button.

- **OPERATION, WARDEN**

Press he F6 key to open the Setup 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.

Press the home icon  to go back to the home page.

NOTE: 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.

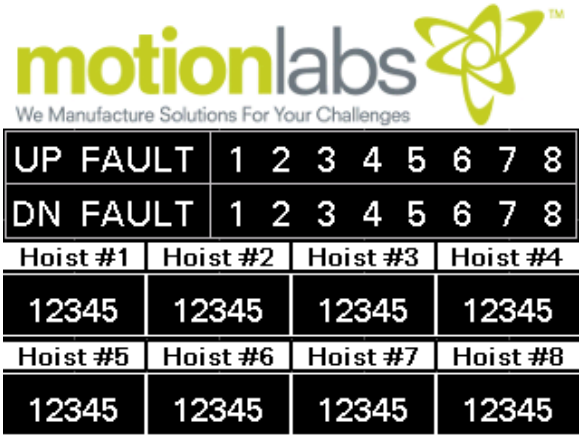
Once completed with the Login process, the HOME page displays security level and login name.

COMM ERROR

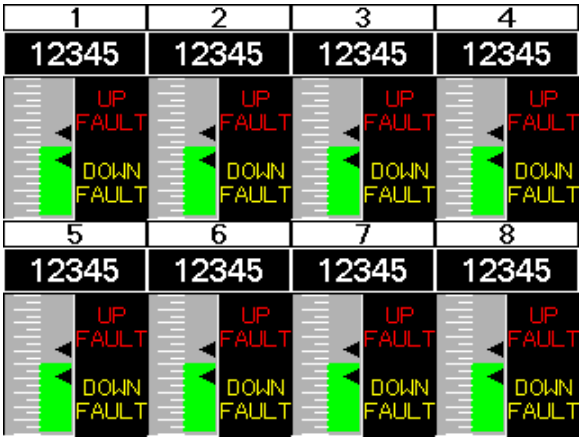
If the Cell*Mate Hub is not connected, powered off, or you have a damaged cable the Comm Error popup will display as below:

HOME PAGES

There are two home pages with different layouts.



F1 Home Page 1



F2 Home Page 2

Both pages show the same information in different ways. Choose the one that works for you. Both pages show faults, weights, and status for all eight hoists.

Home Page 1

A fault is indicated by blinking hoist numbers. Weights are shown numerically. Hoist status is shown by the weight box changing colors (white-ok, red-reached upper weight limit, yellow-reached lower weight limit).

Home Page 2

A fault is indicated by the up and down fault indicators. Weights are shown numerically and graphically. Hoist weight status is shown graphically on bar graph (green-ok, red-reached upper weight limit, yellow-reached lower weight limit).

After Setup is complete you may run a single warden to a controller through a handheld. If any of the weight management conditions are not met the system shuts down and alerts you to the fault.

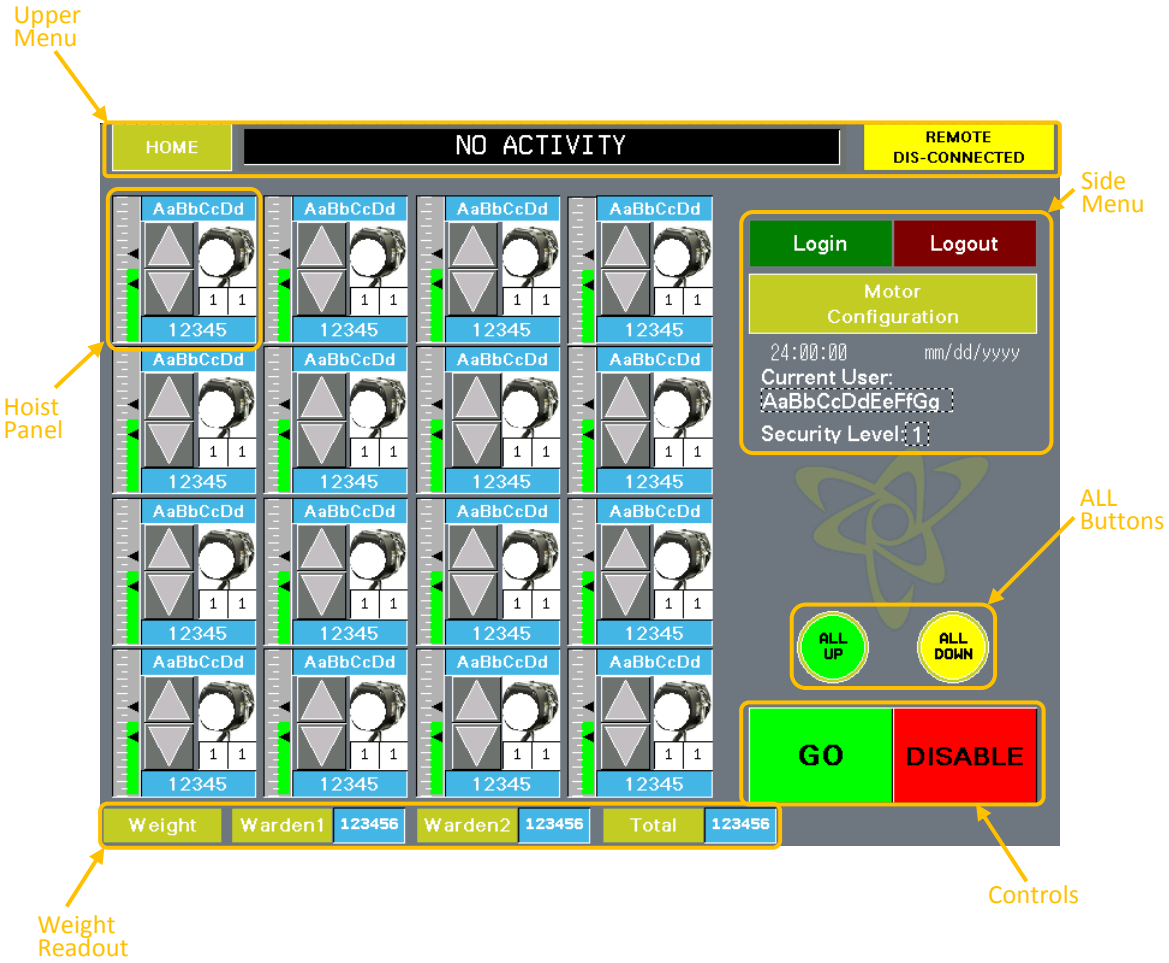
NOTE: You do not have to be logged in to run this system. once the setup has been completed you may run logged in or logged out.

- **OPERATION, TSOS**

From the **Startup** Page, Login (Please see OPERATION, WARDEN) and use the **Warden Selector** button to go through the setup. Then press the **warden operation** button to get to the **Run** page.

Run Page

Shown below is the Run page. This is where the user can control all the motors and monitor the weight simultaneously as the systems moves.



UPPER MENU

The Upper Menu consists of a Home button to return to home, an activity monitor, and a remote connected indicator.

Activity Monitor Message Window

This message bar is shown when the system is idle.

This message bar is shown when a Hand Held Remote is plugged into the system.

This message bar is shown when the system is moving in either the ‘Up’ or ‘Down’ direction.

This message bar flashes when the system is moving in High Speed Mode in either the ‘Up’ or ‘Down’ direction.

This message bar is shown when the system has faulted in either the ‘Up’ or ‘Down’ direction.

This message bar is shown when the system has faulted due to an Overweight Condition. While in ‘Recovery Mode’ any faulted motor can ONLY move in the ‘Down’ direction.

This message bar is shown when the system has faulted due to an Underweight (Slack Chain) Condition. While in ‘Recovery Mode’ any faulted motor can ONLY move in the ‘Up’ direction.

This message bar is shown when the system has lost communication to the Cell*Mate Hub. In this condition the system will not operate.

This message bar is shown when the system has lost communication to the any one of the Warden Units. In this condition the system will not operate.

SIDE MENU

The side menu consists of Login/Logout buttons, a Motor Configuration button and user information.

This button will return you to the Configuration Page.

WEIGHT READOUT

This displays the total weight on all Load Cells plugged into the corresponding Cell*Mate Hub and Warden.

This displays the total weight on all Load Cells plugged into ALL Cell*Mate Hubs and Wardens in use.

ALL BUTTONS

When pressed, it will select ALL motors in the 'Up' position. If pressed again it will de-select ALL motors.

When pressed, it will select ALL motors in the 'Down' position. If pressed again it will de-select ALL motors.

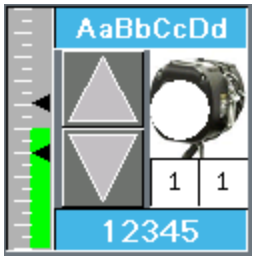
CONTROLS

Triggers all selected motors to move in the selected direction.

Disables the GO Button function.

HOIST PANEL

Each selected motor on the Configuration Page will appear on the Run Page as a Hoist Panel. The Hoist Panel is shown below.

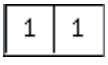


The bar graph on the left indicates the amount of weight on that Load Cell. In that bar graph you will notice two black triangles. They represent your upper and lower limits. The bar graph starts at zero pounds and maxes out at 125% of your upper limit.

On the top of the Hoist Panel you will see a text field that displays the hoist name. If you chose to enter a name on the Configuration Page, it will be displayed here.

There are two larger triangles located in the center of the Hoist Panel. This is where you select the motor movement in the Up or Down direction. Hitting the UP arrow changes color to green and selects. Hitting UP arrow a second time to deselect. While UP arrow is green hitting the DOWN arrow will deselect UP and select DOWN changing DOWN arrow to yellow.

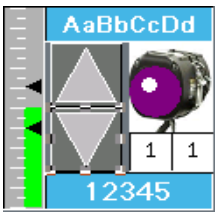
On the right side of the Hoist Panel is the motor icon. This will show you status of that motor. The color of the motor will change depending on the motor's status. (See Motor Status Icon)



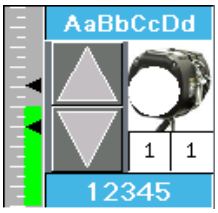
Under the motor icon there are two digits in boxes. These were programmed on the Configuration Page. The first (left) digit is the Warden assignment and the second (right) is the Channel Assignment.

On the bottom of the Hoist Panel you will see a text field. The weight on the motor will be displayed here.

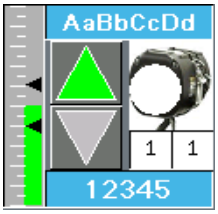
Motor Status Icon



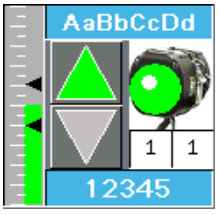
Motor status Icon shown in purple indicates that the Load Cell is NOT plugged into the Cell*Mate Hub or the data cable from the Load Cell to the Cell*Mate Hub is damaged.



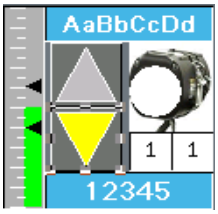
Motor status icon shown in white indicates motor ready to be selected for movement in either direction.



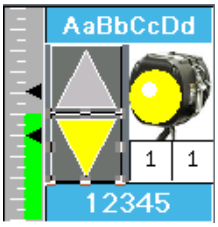
Up arrow shown in green indicates motor is ready for movement in the Up direction.



Motor status Icon and Up arrow shown in green indicates motor is moving in the Up direction.

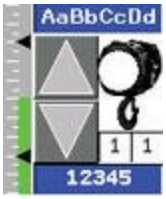


Down arrow shown in yellow indicates motor is ready for movement in the Down direction.



Motor status Icon and Down arrow shown in yellow indicates motor is moving in the Down direction.

Hoist Fault Icon



Shows Hoist status as OK.

Shows Hoist status as Under Weight (Slack Chain). The bar graph will be yellow in color and the motor status icon will be yellow and blinking. Once any channel that has reported an underweight (slack chain) fault, it will ONLY be allowed to move in the up position.

Shows Hoist status as Over Weight. The bar graph will be red in color and the motor status icon will be green and blinking. Once any channel that has reported an overweight fault, it will ONLY be allowed to move in the down position.

The Cell*Mate Warden is designed as part of a Cell*Mate System. The system consists of:

- Cell*Mate Load*Cells
  A-17-003 Series
- Cell*Mate Hub
  A-17-002-0004
- Cell*Mate Display
  A-17-001-1000
- Cell*Mate Data Logger
  A-17-008 Series
- Cell*Mate Wireless Adaptor
  A-17-010-0001
- Cell*Mate Load*Cell Reader
  A-17-009-0003
- Control Series E-Stop
  A-16-004 Series
- Hand Held E-Stop Mushroom
  A-17-004-0100

- INSPECTIONS

Maintenance and inspections should be carried out by competent personnel.

Check all components of system prior to operation.

- 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:

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520 Furnace Dock Road, Cortlandt Manor, NY 10567, USA
TEL: 800.277.6784 I TEL: +1 (914) 788-8877 I FAX: +1 (914) 788-8866
www.motionlabs.com

- DISPOSAL

The Warden and TSOS should be scrapped by cutting, so that it can no longer be used.

Upon demolition, plastic parts must be separated from electric components and must be sent to selective collections according to regulations in force.
With regard to metal elements and components, all materials shall be separated by type such as ferrous materials or aluminum and shipped for recycling