Revision 2.3

LYKOS HYDRAULIC CONTROLLER MANUAL

ALPHA ELEVATOR CONTROL, INC

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Symbols Used in This Manual:

DANGER: Symbol indicates if direction(s) and/or warning(s) are not followed correctly there will be an increase in the probability of personal injury and/or damage to equipment(s).

CAUTION: Symbol indicates if direction(s) and/or warning(s) are not followed correctly there will be an increase in the probability of damage to the equipment(s).

NOTE: Symbol indicates beneficial information and/or procedures.

Limited Warranty:

Alpha Elevator Control's default warranty covers up to 24 months from the date the controller was shipped from the factory and 12 months from the date the small parts were shipped from factory. Warranty is waived if the product is misused, abused, or damaged due to environmental disaster. Alpha Elevator Control does not offer repairs for its products. A replacement will be provided if the product is covered under warranty.

Alpha Elevator Control will need to determine if the product is defective and approved for a warranty. A warranty will not be granted if Alpha Elevator Control has not determined whether the product is eligible for warranty. Purchasers' rights under this warranty shall consist exclusively of requiring, in Alpha's sole discretion, to replace free of charge F.O.B. factory with any defective items received at the factory within 24 months and determined by Alpha to be defective. The giving of, or failure to give, any advice or recommendation by Alpha shall not constitute any warranty by or imposing any liability upon the manufacturer. In no event will Alpha be liable for special or consequential damages for delays in performance of this warranty. Any warranty claim after 24 months from the ship date of the product will be determined that the failed product was caused by ordinary wear and tears.

To claim a warranty, please contact technical support at (916) 957-5900. The representative will provide a case number if the warranty is approved. A Return Material Authorization (RMA) will be provided with the replacement product, and the customer will be responsible for covering all shipping expenses when returning the defective product.

Limitations of Liability:

Under no circumstances will Alpha Elevator Control be liable for damages of any kind, loss of profits arising from out of warranty components, breach of contract, or tort (including negligence). Neglecting to comprehend the elevator control system/equipment could result in danger to people and the control system.

Safety Precautions/Code Compliance:

Alpha Elevator controllers are designed and certified to comply with ASME A17.1/CSA B44. The controllers should only be installed by a licensed and qualified elevator contractor. It is the responsibility of the contractor to be compliant with the state, federal, and National Electrical Codes. It is also the responsibility of the contractor to make sure the final installation of the controller is installed in a safe manner and complies with all local codes.

 *Proper grounding to the control equipment is crucial for a secured, lucrative, and reliable operation. See the National Electrical Code or local electrical code for proper grounding and ground wire sizing requirements to prevent electrical shock, equipment damage, and help reduce noise-induced issues. See next page for proper grounding requirements for an Alpha Elevator controller.*

Technical Support:

For technical assistance on an Alpha Elevator controller, please contact our technical support.

Phone Number: 916-957-5900 EXT. 1
Website Link: www.alphaelevatorcontrol.com

General Wiring Requirements:

Proper routing of signal and power wires for the controller and dispatcher is fundamental to noise related issues for microprocessor equipment. Low voltage and high voltage wiring cannot be in the same conduit, duct, or tray.

Main Line Wiring:

1. Main AC power supply wire sizing to the controller must be determined by the electrical contractor. Proper motor branch circuit protection must be provided according to applicable electrical code in the form of a fused disconnect or circuit breaker.

Motor Wiring:

Incorrect motor branch circuit protection may create hazardous conditions.

2. The pump motor wiring table can be found on the construction mode page or on the job specific schematics. Recommended motor wire size is on the schematic as well.

Ground Wiring:

3. Grounding wire should be sized per the applicable electrical code for the elevator system. Proper grounding is fundamental to provide reliable and safe operation to the controller. A proper ground is described as a connection directly to EARTH GROUND. An electrical contractor should provide and certify the electrical ground. When a good earth ground has been determined and connected with the proper wire size applicable to the electrical code, wire it to the ground terminal inside the controller cabinet labeled “PE” (See controller drawing for connection).

   Grounding examples:

   - Earth ground from a water pipe, but the water pipe must be connected to a continuous city water source and not a free-flowing earth water source.
   - Good structural steel of the building.

4. Grounding can be branched or daisy chained from controller cabinet to controller cabinet, but the wire must terminate at the last controller and not loop back.

TABLE OF CONTENTS

GENERAL INFORMATION

The controller will come equipped with job prints, controller manual (this document), and individual component documents that will help with the installation, adjusting, troubleshooting, and maintenance of the Lykos hydraulic controller. It is mandatory to go over the job prints and equipment installation manual before installing and adjusting the controller.

SPECIFICATION

LYKOS HYDRAULIC CONTROLLER SPECIFICATIONS

Maximum Car Speed	UP TO 200 FPM
Configuration	SIMPLEX AND GROUP
Landings	UP TO 10 FLOORS
Motor Control	SOLID STATE STARTERS
Landing System	KUBLER ANTS LEB02
Dispatching	UP TO 8 CARS IN A GROUP
Environment	NEMA 1, NEMA 12
Standard Enclosure	30” W x 35” H x 10” D (762 x 889 x 254 mm)
Input Voltage	208-600 VAC, 50/60 HZ, 3 PHASE

OVERVIEW OF LYKOS CONTROLLER

MACHINE ROOM CONTROLLER

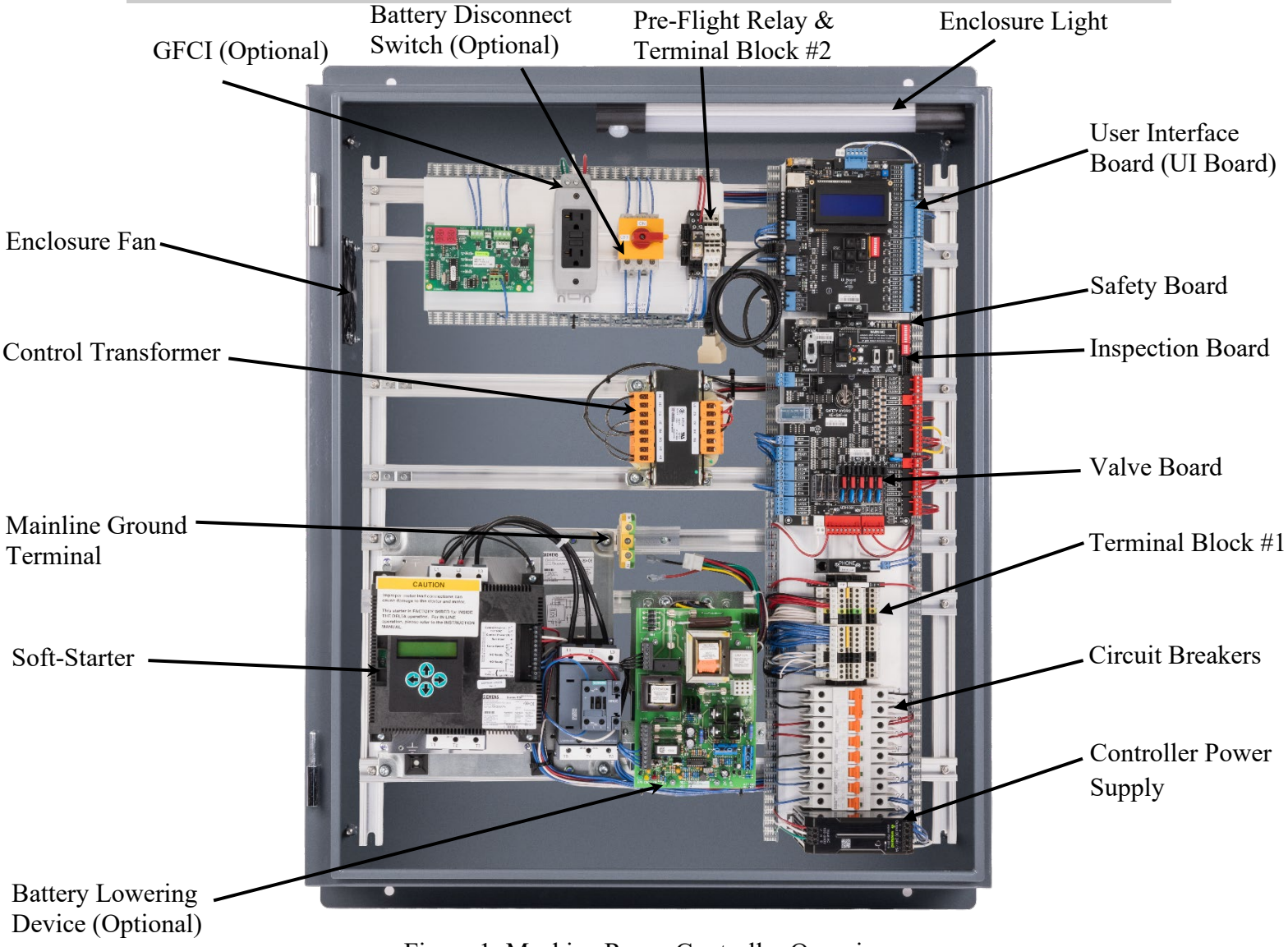

Figure 1: Machine Room Controller Overview

- The standard components to every machine room controller includes: controller power supply, circuit breakers, terminal block #1, safety board, UI board, enclosure light, pre-flight relay, terminal block #2, enclosure fan, control transformer, main line ground terminal, and soft-starter.

CAR TOP (CT) CONTROLLER AND INSPECTION STATION

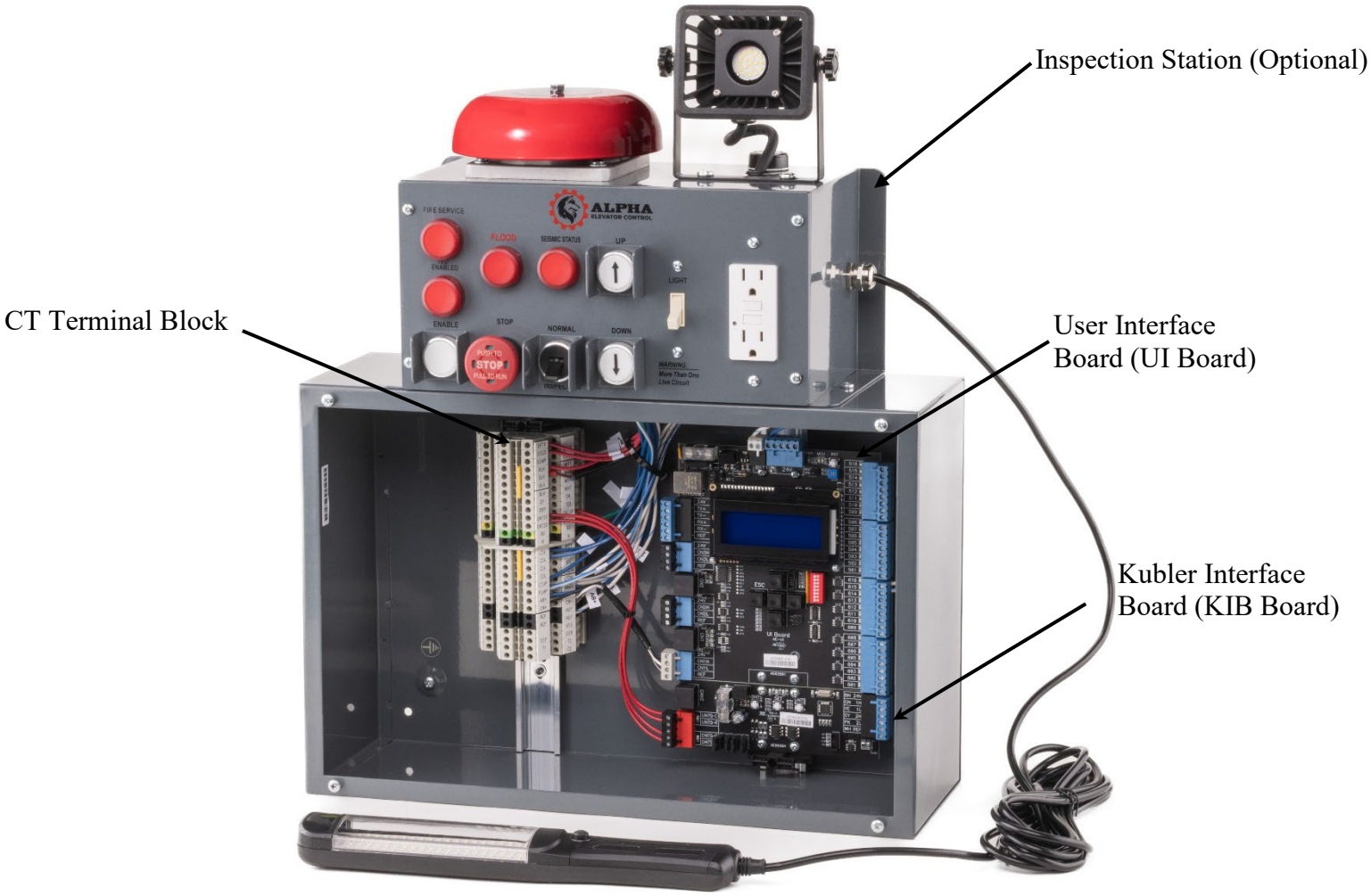

Figure 2: Prewired CT Box and Inspection Station With Drop Light Overview

- Inspection station with or without drop light is optional upon request. When requesting for a CT inspection station, the inspection station will come wired and mounted on top of the car top controller.

UI BOARD

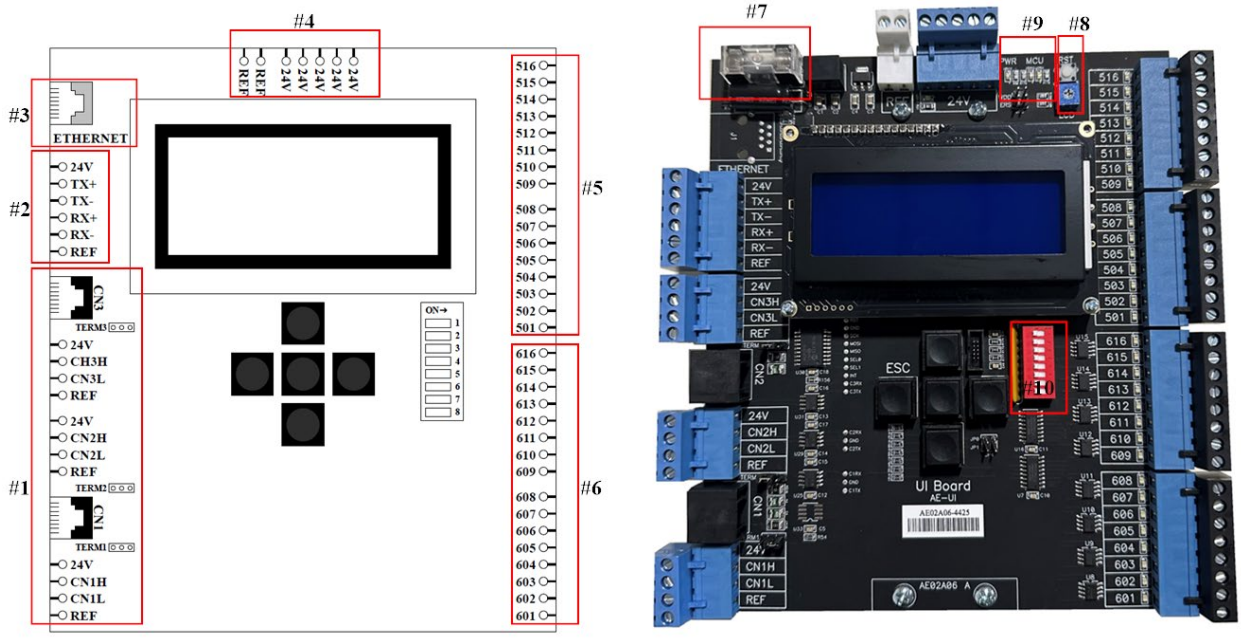

Figure 3: UI Board Overview

#1 – CAN Communication and Termination Jumpers

- Each CAN communication and termination jumpers on the UI Board is used differently to communicate to another board/device. Please refer to the job specific schematics to verify connections to the CAN communication terminal blocks and how the termination jumpers are set on each UI Board.

#2 – RS422 Communication

- RS422 communication is used to connect external devices that require RS422 communication.

#3 – Ethernet Port

- Ethernet port is used on the MR UI Board to connect to the group controller (if applicable).

#4 – 24VDC Board Supply (LED17)

#5 – 16 x 24VDC Programmable Inputs (LED1-LED16)

#6 – 16 x 24VDC Programmable Outputs (LED33-LED48)

#7 – 750 mA Fuse

#8 – Master reset button and LCD screen brightness potentiometer

#9 – LEDs

LED18/PWR – Monitors Fuse & On-Board Regulators are Running	LED52 – Heartbeat of MCU Processer	LED53 – MCU Processor Registered a Fault

#10 – DIP Switch Functionalities on UI Board

DIP 1 – CPU Stop Switch	DIP 2 – N/A	DIP 3 – Door Disable (MR UI Only)	DIP 4 – N/A
DIP 5 – N/A	DIP 6 – Pop-Up blocker	DIP 7 – Identification of UI BOARD (Used with DIP 8 to assign board as MR, CT, or COP)	DIP 8 - Identification of UI BOARD (Used with DIP 7 to assign board as MR, CT, or COP)

SAFETY BOARD

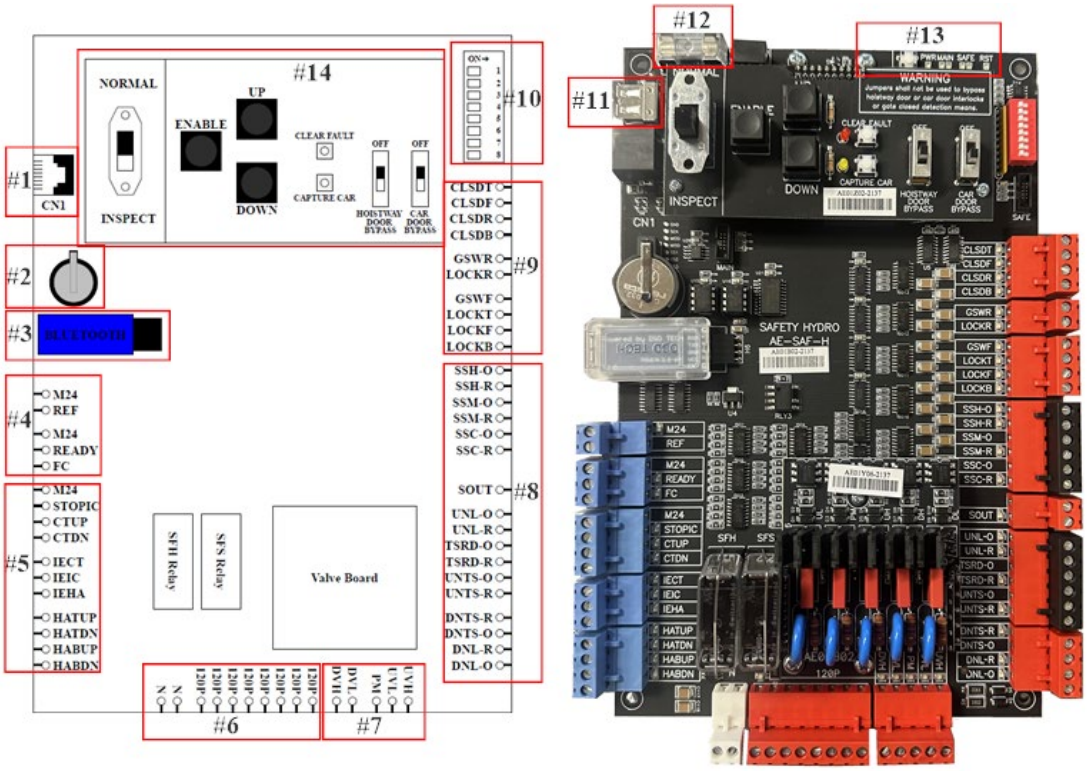

Figure 4: Safety Board Overview

#1 – CAN communication:

- CN1 RJ45 Port connects to MR Board CN1 via Standard CAT5

#2 – Battery

#3 – Bluetooth Transceiver

For Items #4-#9, see Table for terminal definitions

#4. STARTER / 24 BUS		#6. POWER SUPPLY		#8. HOISTWAY SWITCHES		#9. DOOR LOCKS	
M24	24VC	N	NEUTRAL	DNL-O	DOWN NORMAL LIMIT OUTPUT	LOCKB	LOCK BOTTOM
REF	REFERENCE	120P	120 PRE FLIGHT	DNL-R	DOWN NORMAL LIMIT RECEIVING	LOCKF	LOCK FRONT
READY	SOFTSTARTER IS READY	#7. VALVE AND MOTOR		DNTS-O	DOWN NORMAL TERMINAL SLOWDOWN OUTPUT	LOCKT	LOCK TOP
FC	FAULT CONTACTOR	DVH	DOWN VALVE HIGH	DNTS-R	DOWN NORMAL TERMINAL SLOWDOWN RECEIVING	GSWF	GATE SWITCH FRONT
#5. INSPECTION MODE AND OPERATION		DVL	DOWN VALVE LEVELING	UNTS-R	UP NORMAL TERMINAL SLOWDOWN RECEIVING	LOCKR	LOCK REAR
STOPIC	IN CAR STOP SWITCH	PM	PUMP MOTOR	UNTS-O	UP NORMAL TERMINAL SLOWDOWN OUTPUT	GSWR	GATE SWITCH REAR
CTUP	CAR TOP UP	UVL	UP VALVE LOW	TSRD-R	TERMINAL SLOWDOWN REDUCING DEVICE RECEIVING	CLSDB	CLOSED BOTTOM
CTDN	CAR TOP DOWN	UVH	UP VALVE HIGH	TSRD-O	TERMINAL SLOWDOWN REDUCING DEVICE OUTPUT	CLSDR	CLOSED REAR
IECT	INSPECTION CAR TOP			UNL-R	UP NORMAL LIMIT RECEIVING	CLSDF	CLOSED FRONT
IEIC	INSPECTION IN CAR			UNL-O	UP NORMAL LIMIT OUTPUT	CLSDT	CLOSED TOP
IEHA	INSPECTION HOISTWAY ACCESS			SOUT	SAFE TO RUN		
HATUP	HOISTWAY ACCESS TOP UP			SSC-R	CAR SAFETY DEVICE RETURN		
HATDN	HOISTWAY ACCESS TOP DOWN			SSC-O	CAR SAFETY DEVICE OUTPUT		
HADBUP	HOISTWAY ACCESS BOTTOM UP			SSM-R	MACHINE ROOM SAFETY DEVICE RETURN		
HABDN	HOISTWAY ACCESS BOTTOM DOWN			SSM-O	MACHINE ROOM SAFETY DEVICE OUTPUT		
				SSH-R	HOISTWAY SAFETY DEVICE RETURN		
				SSH-O	HOISTWAY SAFETY DEVICE OUTPUT		

#4 – Starter Connection/24VDC Bus

#5 – Inspection Mode and Operation – 24VDC

#6 – 120VAC Bus

- Safety Board 120VAC Input/Output Power

#7 – Valve and Motor – 120VAC (Removable/Replaceable Valve Board)

- LED53 – LED57 (Above DVH, DVL, PM, UVL and UVH)
  - Green LEDs that indicate the Safety MCU processor is activating the valve output(s)
- LED40 – LED44 (Below DVH, DVL, PM, UVL, UVH)
  - Orange (Yellow) LEDs that indicate 120VAC is being output with the appropriate valve being activated

#8 – Safety String/Hoistway Switches (120VAC)

#9 – Door Lock Contacts (120VAC)

- Hall Locks
  - LOCKT (Top), LOCKF (Intermediate), LOCKB (Bottom), LOCKR (Rear if applicable)
- Manual Hall Doors (Closed Contacts)
  - CLSDT (Top), CLSDF (Intermediate), CLSDB (Bottom), CLSDR (Rear if applicable)
- Car Gate
  - GSWF (Gate Switch Front), GSWR (Gate Switch Rear)

#10 – DIP Switch Functionalities on Safety Board

DIP 1 – N/A	DIP 2 – N/A	DIP 3 – N/A	DIP 4 – N/A
DIP 5 – N/A	DIP 6 – Swing Door Enable	DIP 7 – In Car (IC) Inspection Enable	DIP 8 – Rear Door Enable

#11 – SB port

#12 – 750 mA Fuse

#13 – LEDs

LED7 - Monitors Fuse & On-Board Regulators are Running	LED49 – Heartbeat of Main MCU Processor	LED50 – Main MCU Processor Registered a Fault	LED45 – Heartbeat of CPLD Processor	LED46 – CPLD Processer Registered a Fault
LED47 –Heartbeat of Safety MCU Processor	LED48 – Safety MCU Processor Registered a Fault	LED51 – Board Resetting		

#14 – Inspection Board (Removable/Replaceable)

- Controls for Machine Room Inspection Operation
- Capture Car Button
  - Yellow LED activates while button is pressed
  - Used to keep doors from cycling open and close
  - While car is captured, it will not accept hall calls
- Clear Fault Button
  - Red LED activates while button is pressed
  - Used to clear latching safety fault(s) on the MAIN, SAFE & CPLD processors

- Hoistway Door Bypass
    - Only works on IC Inspection and CT Inspection
    - Used to bypass status of hall locks to run on IC Inspection and CT Inspection
- Car Door Bypass
    - Only works on IC Inspection and CT Inspection
    - Used to bypass status of car doors to run on IC Inspection and CT Inspection

UI SCREEN OVERVIEW

NAVIGATING THE LCD SCREEN – HOME SCREEN

To access the different menus on the UI board, use the buttons to move between screens.

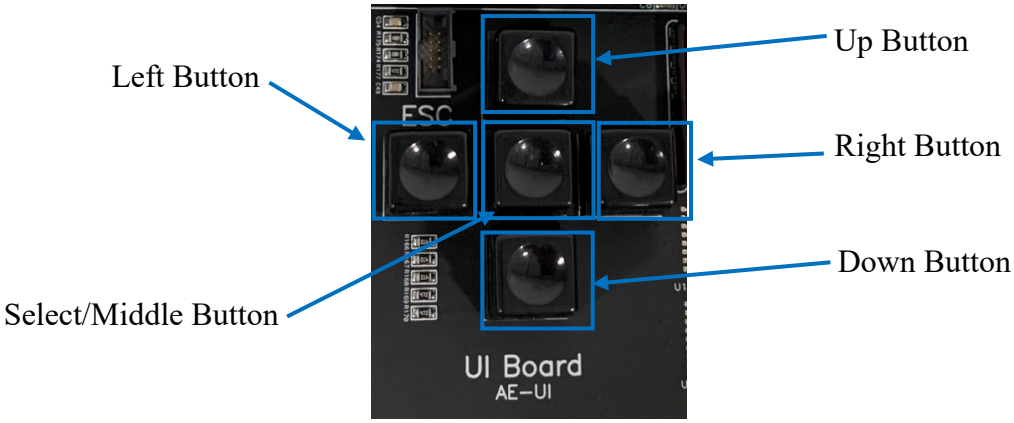

Figure 5: UI Board Buttons

Home Screen – Elevator Overview:

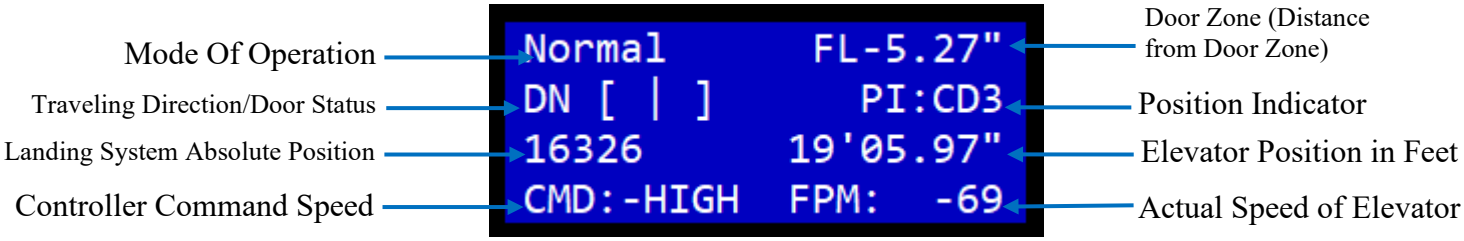

Figure 6: Home Screen – Elevator Overview

The home screen is the first thing seen when accessing the controller and where menu navigation begins. To navigate to the home screen from another screen, keep pressing the left button of the UI board buttons until the home screen is shown. User can toggle through the displays below with the up and down buttons.

The home screen displays the following:

- Mode of elevator operation
- Door zone and dead zone
- Front and rear door (if applicable) status
- Position Indicator that elevator is on
- The controller count reference
- The height the of the elevator
- Controller command speed
- The speed the elevator is traveling at
- Front door data
- Rear door data (if applicable)
- Hall door data

Home Screen – Front Door Data:

The front door data has a total of 4 rows of information to show what door signals are currently active. Pressing the down button from this screen will reveal the 4th row.

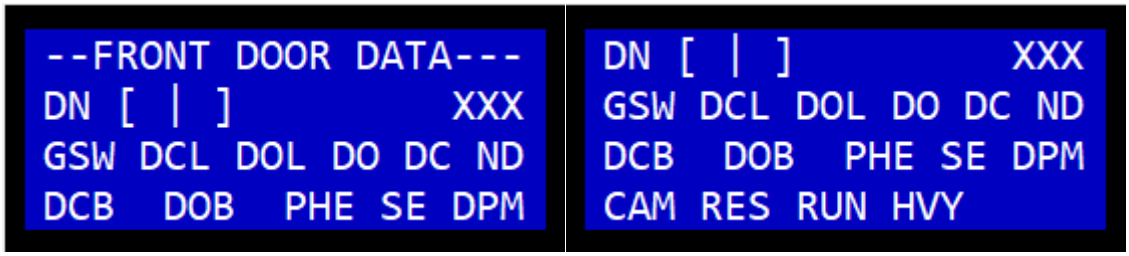

Figure 7: Home Screen – Front Door Data

This screen also displays the status of the door position. Only the signals that are active are displayed on this screen, the non-active will not be displayed. (Pressing the enter button on this screen will display all possible door signals)

Door Definition:

Abbreviation	Definition
GSW	Gate Switch
DCL	Door Close Limit
DOL	Door Open Limit
DO	Door Open
DC	Door Close
ND	Nudge
DCB	Door Close Button
DOB	Door Open Button

Abbreviation	Definition
PHE	Photo Eye
SE	Safety Edge
DPM	Door Position Monitor
CAM	Cam
RES	Restrictor
RUN	Run
HVY	Heavy

Home Screen – Rear Door Data (if applicable):

If the controller is configured for rear doors, the same set of data is available identical to the front door data.

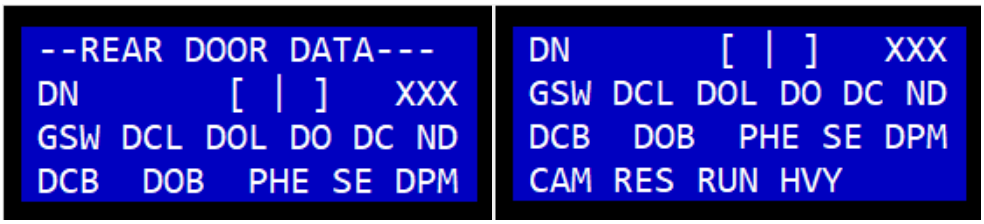

Figure 8: Home Screen – Rear Door Data

Signals that should be seen when the car door(s) are fully closed:

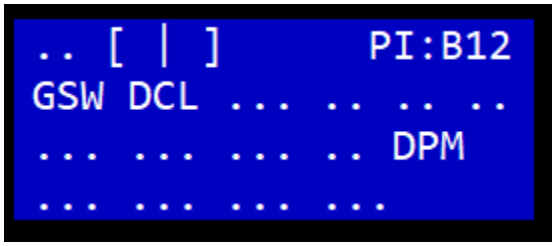

Figure 9: Home Screen – Closed Door Signal

Signals that should be seen when the car door(s) are fully open:

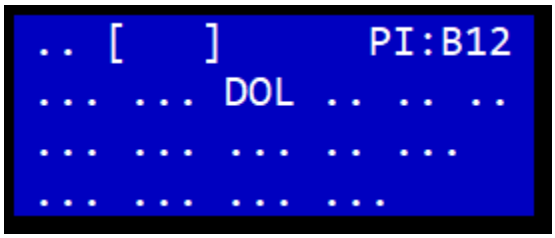

Figure 10: Home Screen – Opened Door Signal

Home Screen – Hall Door Data:

At the very bottom of the home screen is the hall door data.

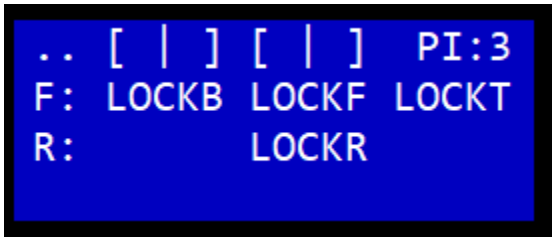

Figure 11: Home Screen – Hall Door Data

The hall door data will show the current state of the hall lock inputs for both front (F) and rear (R) if the job has rear. It will also show the current state of the closed contact inputs of the manual hall doors (if applicable).

Abbreviation of the lock signal (these signals will only display when the contacts are made):

LOCKB = Hall Lock Bottom
LOCKF = Hall Lock Front
LOCKT = Hall Lock Top
LOCKR = Hall Lock Rear
CLSDB, CLSDF, CLSDT, and CLSDR = Closed Contact (Swing door)

CONSTRUCTION MODE

Verify the main line disconnect is off prior to wiring the main line into the controller.

Construction mode wiring can be found on the job schematic. There is a factory jumper (orange or yellow wire) from the SSH-O terminal to the SSC-R terminal on the safety board. Remove the jumper when off construction mode.

Main Line and Motor Wiring:

- Connect fan and light disconnect building power wires black and white to the terminals BLK and WHT on the DIN rail.
- Connect the 3-phase mainline power to the soft-starter terminals L1, L2 and L3.
- Connect the motor leads to the side of the soft-starter and fault contactor with no wires on them depending on the motor wiring configuration. Refer to the job schematic or the tables below for motor wiring configurations.

3 & 9 LEAD MOTOR WIRING				
MOTOR CONFIGURATION	**SOFT STARTER TERMINALS**			**JUMPER**
	T6	T4	T5	
3 LEAD MOTOR (208VAC–575VAC)	1	2	3	No Jumper
9 LEAD MOTOR LOW VOLTAGE (208VAC-240VAC)	1,6,7	2,4,8	3,5,9	No Jumper
9 LEAD MOTOR HIGH VOLTAGE (460VAC-480VAC)	1	2	3	4&7, 5&8, 6&9

6 & 12 LEAD MOTOR WIRING							
MOTOR CONFIGURATION	**SOFT STARTER TERMINALS**						**JUMPER**
	T1	T2	T3	T4	T5	T6	
6 LEAD MOTOR (208VAC-575VAC)	1	2	3	4	5	6	No Jumper
12 LEAD MOTOR LOW VOLTAGE (208VAC-240VAC)	1&7	2&8	3&9	4&10	5&11	6&12	No Jumper
12 LEAD MOTOR HIGH VOLTAGE (460VAC-480VAC)	1	2	3	10	11	12	4&7, 5&8, 6&9

Valve Wiring:

- Connect the valve coils to the following terminals:
    - One side of the up high valve coil to N on the DIN rail and the other side of the coil to UVH of the safety board.
    - One side of the up leveling valve coil to N on the DIN rail and the other side of the coil to UVL of the safety board.
    - One side of the down high valve coil to N on the DIN rail and the other side of the coil to DVH of the safety board.
    - One side of the down leveling valve coil to N on the DIN rail and the other side of the coil to DVL of the safety board.

General Field Jumpers:

- Make the following connections on the MR UI board, if the inputs below are not available:
    - Low Oil Input to M24
    - Oil Overheat Input M24
    - Oil Viscosity (Temperature) Input to M24 [**IF APPLICABLE]**
    - Low Pressure Input to M24 [**IF APPLICABLE]**
    - Motor Overheat Input to M24 [**IF APPLICABLE]**

Controller will run on low speed on construction mode by default. To run on high speed on construction mode:

- Connect the following to the safety board:
    - UNL-R to UNTS-R
    - DNL-R to DNTS-R
- Go to **MAIN MENU → SETUP → INSPECTION/ACCESS → ALLOW HIGH SPEED**, set it to **TRUE** and save the parameter. This will allow high speed on any inspection mode.

Construction Mode Methods:

Option #1: If using a temporary run box (CT Inspection Mode):

- Connect the following to the safety board:
    - Stop switch to M24 and STOP-IC
    - Up button to CTUP
    - Down button to CTDN
- Turn both the car door and hall door bypass switches from OFF to the BYPASS position.

Elevator is now ready to run on construction mode with the temporary run box.

Option #2: If not using a temporary run box (MR Inspection Mode):

- Make the following connections on the safety board:
  - IECT to M24
  - IEIC to M24 [**IF APPLICABLE]**
  - IEHA to M24
  - STOPIC to M24
  - GSWF to 120P
  - LOCKT to 120P
  - LOCKF to 120P
  - LOCKB to 120P
  - GSWR to 120P [**IF APPLICABLE]**
  - LOCKR to 120P [**IF APPLICABLE]**
- Turn inspection switch on the safety board from NORMAL to the INSPECT position.

Elevator is now ready to run on construction mode with the MR inspection board.

KUBLER LANDING SYSTEM INSTALLATION

What's Included:

- **Top Rail Assembly:**
  - 1x Rail Fastening Plate
  - 2x Clamping Plate
  - 2x Hexagon Head Screw (YL 8.8)
  - 2x Large Diameter Washer
  - 2x Retaining Ring
  - 2x Hexagon Nut (S 1101)
  - 1x Carabiner
- **Tape Break Switch Assembly**
  - 1x Tape Break Switch Rail Fastening Plate
  - 2x Clamping Plate
  - 2x Hexagon Head Screw (YL 8.8)
  - 2x Large Diameter Washer
  - 2x Retaining Ring
  - 2x Hexagon Nut (S 1101)
  - 2x Wire Rope Cable Clamp
  - 1x Pre-Cut 1/16th in. Galvanized Vinyl Coated Steel Wire Rope
  - 1x Tape Break Switch
  - 1x Tape Break Switch Key
  - 2x TBS Long Screw
  - 2x TBS Long Screw Washer
  - 2x TBS Long Screw Nut
- **Bottom Rail Assembly:**
  - 1x Rail Fastening Plate
  - 2x Clamping Plate
  - 2x Hexagon Head Screw (YL 8.8)
  - 2x Large Diameter Washer
  - 2x Retaining Ring
  - 2x Hexagon Nut (S 1101)
  - 2x Carabiner
  - 1x Tension Spring
- **Sensor Assembly**
  - 1x Sensor
  - 1x Sensor Mounting Plate
  - 1x Sensor Fastening Screw
  - 1x Sensor Fastening Washer
  - 3x 2ft Slotted Unistrut
  - 6x Crosshead Hexagon Head Screw (307A JH)
  - 14x Crosshead Hexagon Washer
  - 6x Retaining Ring
  - 6x Hexagon Nut (S 1101)
  - 2x Sensor Plate Screw (307A JG)
  - 2x Sensor Plate Washer (Small)
  - 2x Sensor Plate Nut (LWFC)
  - 1x Coded Stainless-Steel Tape

Installation:

1. Assemble both Rail Fastening Plates using: 4x Hexagon Head Screws, 4x Hexagon Nuts, 4x Large Diameter Washers, 4x Retaining Rings and 4x Clamping Plates loosely. Each rail fastening plate will use 2 of each item listed above. See Figure 12

Figure 12: Assembled Rail Fastening Plate

Left Side Orientation

2. Attach one of the assembled Rail Fastening Plates to the top of the guide rail in the hoistway overhead. Fastening plate may be oriented on either side of the guide rail. See Figure 13

Right Side Orientation

Figure 13: Top Rail Fastening Plate Installation

3. Attach the Coded Stainless-Steel Tape to the Rail Fastening Plate.
    a. Loop a Carabiner through a round hole close to the top of the tape.
    b. Attach the Carabiner and tape to the Rail Fastening Plate by putting the Carabiner through the outermost slot if possible.
        i. If using a different slot, make note of which slot the carabiner is on; the same slot will be used when installing the tape on the bottom rail fastening plate.
    c. Ensure the tape is correctly oriented with the square holes on the right side of the tape. See Figure 14

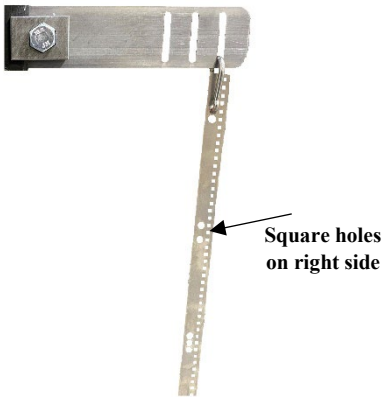

Figure 14: Top Rail Fastening Plate with Carabiner and Tape

4. Move the car down on inspection, unrolling the Coded Stainless-Steel Tape as the elevator moves. As the elevator reaches the bottom, drop the remaining tape into the pit.
5. In the pit, install the other assembled Rail Fastening Plate near the bottom of the guide rail following the same orientation as in step 2.

6. Connect one Carabiner to the top of the Tension Spring and one to the bottom of the tension spring.
7. Connect the spring's top carabiner to a round hole on the tape. This will be where the tape ends.
    a. Choose a hole such that the distance between the bottom of the spring's bottom carabiner and the top of the Rail Fastening Plate is between 2.0 – 3.0 inches when the spring is hanging and unstretched. See Figure 15
8. Connect the spring's bottom carabiner to the bottom Rail Fastening Plate using the same slot that was used at the top of the hoistway from step 3.

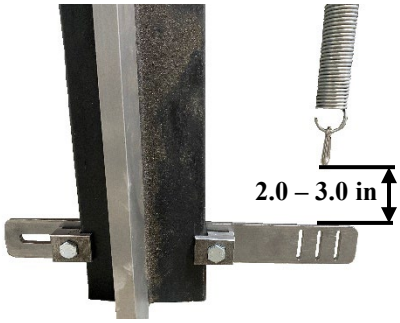

Figure 15: Distance from Bottom Carabiner of Tension Spring to Top of the Rail Fastening Plate

9. Cut the tape between ~0.2 – 0.6 inches down from the center of the hole that the bottom carabiner will go through. See Figure 16

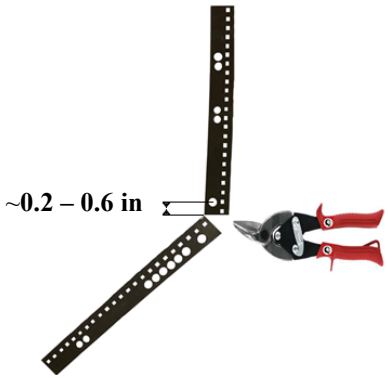

Figure 16: Excess tape cutoff

10. Install the Tape Break Switch Fastening Plate to the guide rail 2 – 3 feet above the bottom Rail Fastening Plate.
11. Connect the tape break switch to the plate with the key pointing downward; the key location can be adjusted on the tape break switch. The tape break switch must be parallel to the tape with some distance between. See Figure 17

Figure 17: Tape Break Switch

12. Connect the supplied wire rope, from the pull tab key to the top of the tension spring using the supplied wire clamp. Leave some slack to allow key to be pulled. See Figure 18
    a. The key will be connected to one side of the wire rope with a wire clamp on it already.
    b. Thread the other side of the wire rope, through the side of the upper hook that is enclosed by the carabiner, and a wire clamp to make a loop and tighten both nuts as tight as possible. Cut any excess wire rope. If the tape breaks, the spring will retract and pull down the key.

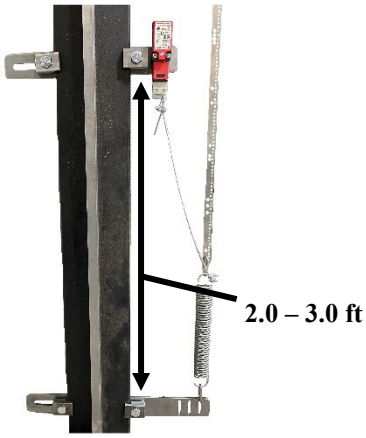

Figure 18: Tape Break Switch Assembly

13. Bring a pair of hoistway wires to connect the safety string circuit from the safety board to the tape break switch.
    See Figure 19 for safety board connection.

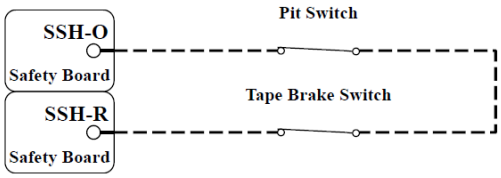

Figure 19: Safety String Wiring

14. Unscrew and remove the front cover of the tape break switch to connect the normally closed contact to the safety string circuit through the hole. Ensure the contact is closed when the key is inserted and open when the key is removed. Close the cover and tighten screw after.
    See Figure 20

Figure 20: Tape Break Switch Contacts

15. Install the Sensor Mounting Plate to the crosshead on top of the car, using the supplied unistruts, washers and screws. Make sure to align the sensor mounting plate with the tape as much as possible. See Figure 21

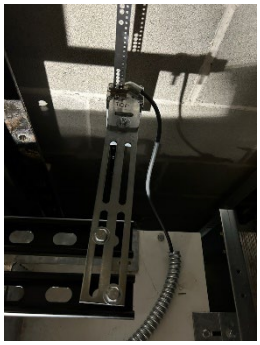

Figure 21: Sensor Mounting Plate Crosshead Installation

16. Install the Sensor to the Sensor Mounting Plate using the Sensor Fastening Screw and the Sensor Fastening Washer but do not fully tighten the screw to allow for adjustments. See Figure 22 The sensor will need to be oriented accordingly with the tape (use sticker on sensor for reference). **Ensure that the sensor is installed with the led on top of the sensor (Note: Led will be off if there is no power to the sensor. See Figure 23**

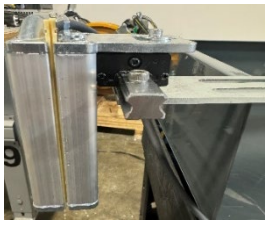

Figure 22: Sensor and Plate Assembly

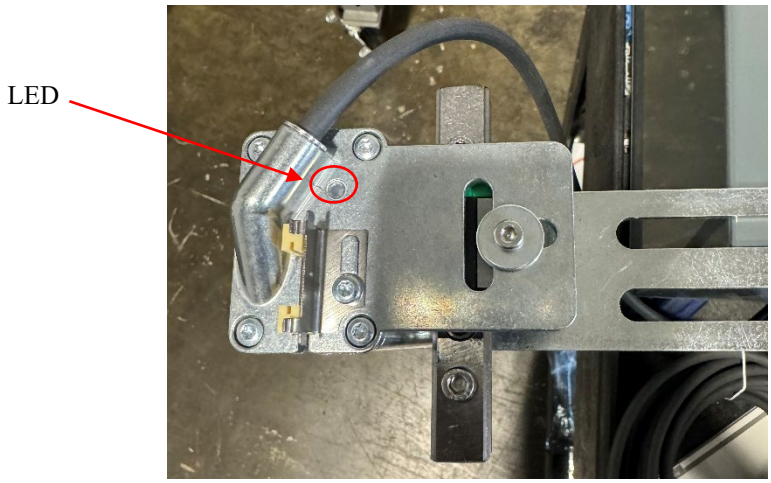

Figure 23: Sensor Properly Oriented (Top View of Sensor)

17. Remove the outer sliding strip from the sensor by loosening the sliding strip lock screw on the sliding strip lock and either pulling back the lock or sliding it to the side. See Figure 24

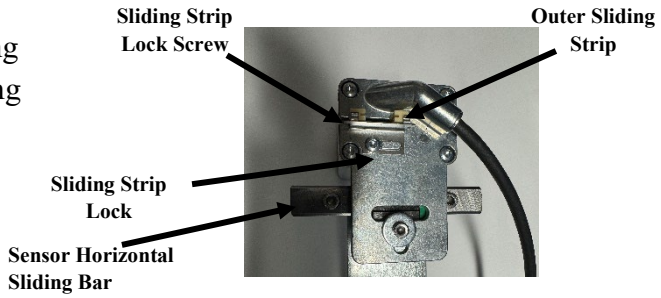

Figure 24: Sliding Strip Lock

18. Slide the tape in through the side of the sensor and insert the sliding strip back into the sensor by aligning the side of the strip with the tape. Fully tighten the sliding strip lock after. See Figure 25

Figure 25: Sensor and Tape Installation

19. Adjust the sensor's position using the T-hole so that the tape is straight and not tilted to the side. Once the tape is correctly positioned in the sensor, fully tighten the Sensor Fastening Screw. See Figure 26

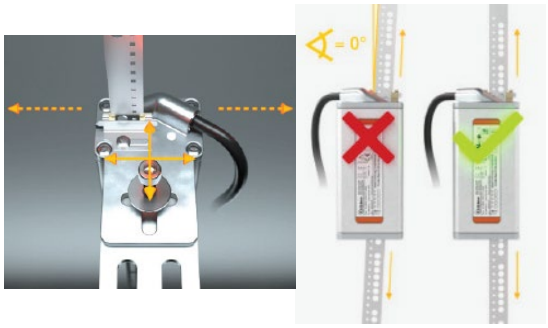

Figure 26: Sensor and Tape Alignment

20. Connect the 6 wires of the sensor for power and communication to the KIB board located inside the CT Box. See Figure 27

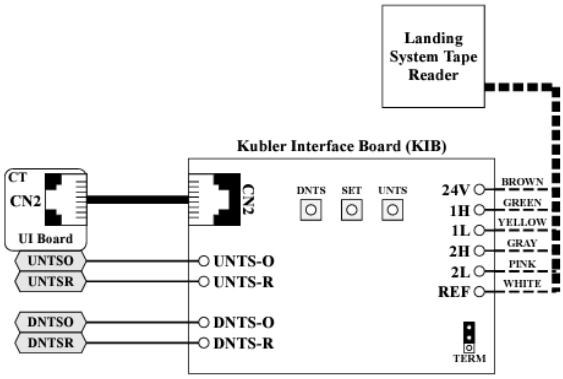

Figure 27: Sensor head connection to KIB Board.

LEARNING THE FLOOR LEVELS

Learning the floor levels pre-check:

- The landing system is to be fully installed before learning the floor levels.
- Verify the car doors and hall doors are closed and the controller sees all the correct door signals.
- Put the elevator on machine room inspection and verify that it runs on inspection without any faults. (Make sure the bypass directional setting is set to TRUE)
- Verify the FPM on the controller screen is tracking the speed correctly along with the tape count is increasing and decreasing as the elevator is moving.

Learning the floor levels can be started at any floor and in any direction. The elevator will need to travel to each floor manually and be placed at floor level or close to floor level as possible and the controller will learn each floor level by following the instructions below:

Getting started:

1. Put the elevator on CT inspection.
2. Move the elevator on CT inspection to any floor to start. Recommended floor to start is at a terminal floor.
3. Make sure the elevator is at floor level or as close to floor level as possible.
4. On the CT UI Board, go to MAIN MENU → SETUP → FLOOR LEVELS → COARSE SET LEVEL.
5. Scroll to the floor that the elevator is currently positioned at and click save.

Figure 28: Menu Screen for Learning Door Zones

6. Move the elevator to the next unlearned floor and repeat steps 4 – 5 until all floor's door zones are learned.
7. If bypass directional limit is still set to TRUE, set to FALSE.

There are two different ways of verifying the controller learned all the floors.

1. There will be an alarm "A206: Floor Levels" displayed on the screen until all floors are learned. Once all floors are learned, the alarm will no longer be displayed.
2. On the main LCD screen, if the controller is not displaying any position for feet and inches that means the controller has not learned all floors door zone. Once all floors are learned, the position of the elevators will be displayed, the position indicator, and the door zone indicator.

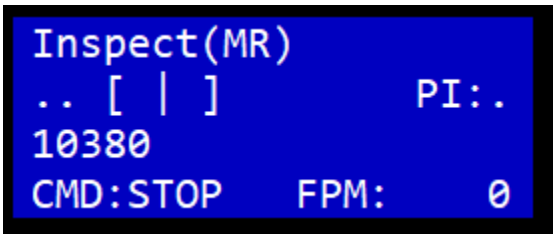

Figure 29: Not Learned LCD Screen

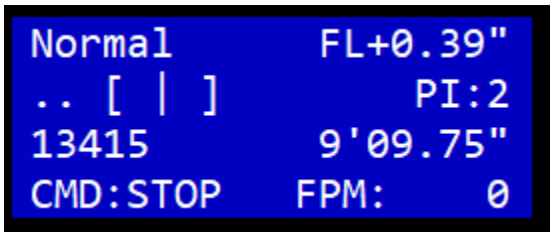

Figure 30: Learned All Floors LCD Screen

If there is a floor that has not been learned, follow these following steps to determine which floor has not been learned:

1. Go to MAIN MENU → SETUP → FLOOR LEVELS → ADJUST ANY FLOOR.
2. Toggle using the up or down button to verify that all floors display a non-zero position in ft and inches besides the bottom floor. The bottom floor will never display any position in ft and inches because it will always be 0 FT, but it will display the landing system absolute position.

Figure 31: Not Learned floor Screen

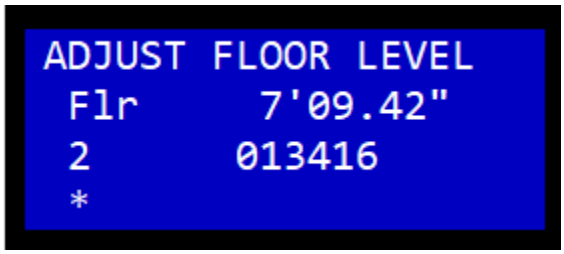

Figure 32: Learned floor Screen

LEARNING VIRTUAL UNTS/DNTS SWITCHES

Learning the NTS switches is required before being able to run on normal operation.

Location of virtual switches in hoistway:

Figure 33: Placement of TSRD and NTS virtual switches in hoistway

NOTE: Depending on what style KIB Board the controller has, the method of setting up the Virtual NTS can vary. Verify what the KIB Board the controller has and follow the correct setup procedure for it.

SETTING UP VIRTUAL NTS (**AE08 KIB BOARD**):

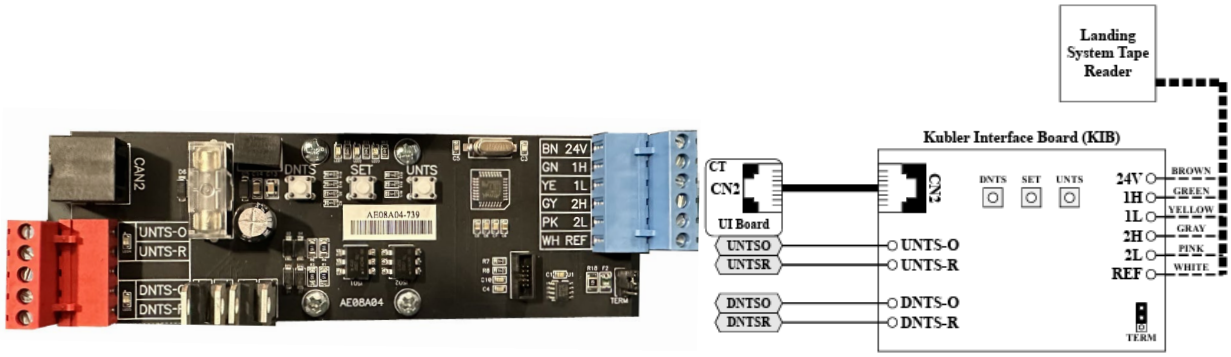

Figure 34: KIB Board Revision AE08

There is no order in which NTS position needs to be set first, either can be done before the other.

1) Place the elevator on Cartop Inspection.
2) Setting the UNTS Position:
    a. Move the car to the slowdown initiation point for the top terminal landing. You will see this on your main screen, it will show SD at the upper right. Move the car to where SD first appears.
    b. On the Kubler Interface Board (KIB), press and hold the SET (middle) button until both the LEDs on the bottom left of the board for UNTS and DNTS starts flashing.
    c. Press the UNTS (right) button. Only the UNTS LED remains flashing.
    d. Press the UNTS button a second time. The UNTS position is now set and the LED should stop flashing and stay powered on. The DNTS LED should also be on.
3) Setting the DNTS Position
    a. Move the car to the slowdown initiation point for the bottom terminal landing. You will see this on your main screen, it will show SD at the upper right. Move the car to where SD first appears.
    b. On the Kubler Interface Board (KIB), press and hold the SET (middle) button until both the LEDs on the bottom left of the board for UNTS and DNTS starts flashing.
    c. Press the DNTS (left) button. Only the DNTS LED remains flashing.

d. Press the DNTS button a second time. The DNTS position is now set and the LED should stop flashing and stay powered on. The UNTS LED should also be on.

4) After fine tuning your valves and slowdowns, you can readjust your NTS positions if needed by repeating steps 1-3.

SETTING UP VIRTUAL NTS (**AE16 KIB BOARD**):

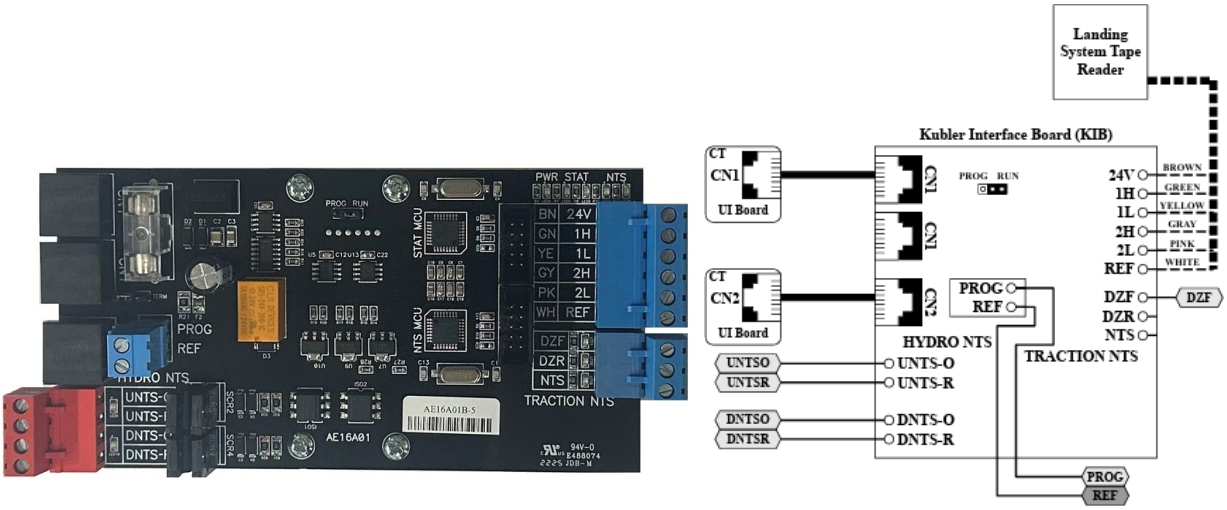

Figure 35: KIB Board Revision AE16

The controller gets the virtual NTS settings from the slowdown settings from the controller, then programs the information into the Kubler Interface Board on top of the car, so learning of the NTS is not required. However, whenever slowdown settings are adjusted on the controller, for the Kubler Interface Board to learn those NTS values, the Kubler Interface board needs to be put on program mode and than back to run mode via jumper prior to releasing to the public.

1) Locate the KIB Switch Program Board inside the controller.

Figure 36: KIB Switch Board

2) Switch the switch to PROGRAM and wait 5 seconds.
3) Switch the switch back to RUN and the KIB Board should now have the virtual NTS learned.

SETTING UP VIRTUAL TSRD:

4) Go to MAIN MENU → SLOWDOWNS AND STOPS → VIRTUAL TSRD SWITCH, and set the distance of how far the virtual TSRD switch is from the top floor level. Refer to the table below for recommendation distance of the TSRD.

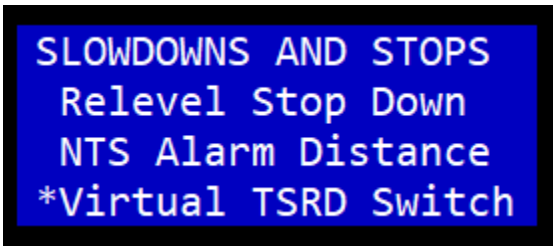

Figure 37: Virtual TSRD Switch Menu

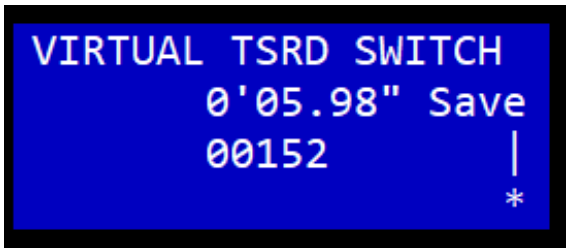

Figure 38: Setting the virtual TSRD distance

Recommended TSRD virtual switch placement:

CONTRACT SPEED (FPM)	*DISTANCE FROM TOP FLOOR LEVEL (FEET & INCHES)*
40	0’ 04.00”
60	0’ 05.00”
80	0’ 06.00”
100	0’ 07.00”
125	0’ 09.00”
150	1’ 02.00”
175	1’ 06.00”
200	2’ 00.00”

ADJUSTING SLOWDOWNS

After learning the door zones and verifying they are correct, the elevator should be able to run on normal operation. Adjust the slowdowns accordingly using the controller and the valves.

1. Put the elevator on normal operation and make sure the controller is not faulted.
2. Place a car call in the up and down direction using the controller (MAIN MENU → TEST & TROUBLESHOOT → ENTER CALLS), to verify the car runs. Adjust the valves if needed for a smooth transition to stop.
3. Once all the valve adjustments are good, verify the time it takes from leveling to stop. Recommended time running in leveling speed to stop is 3 – 4 seconds.

Verify the high and low speeds of both directions are set properly before adjusting slowdowns. Low speed should not exceed 10 FPM in either direction.

If the elevator is leveling too long before it stops, the slowdown setting in that direction will need to be decreased. Adjusting the setting would mean adjusting the time it commands high speed to leveling speed.

4. To adjust the slowdown distance, go to any of the UI boards, go to MAIN MENU → SETUP → SLOWDOWNS AND STOPS → SLOWDOWN GOING UP or SLOWDOWN GOING DOWN. If the elevator comes in too fast to a floor, the slowdown setting in that direction will need to be increased, if the elevator is coming in too long to a floor, the slowdown in that direction will need to be decreased.

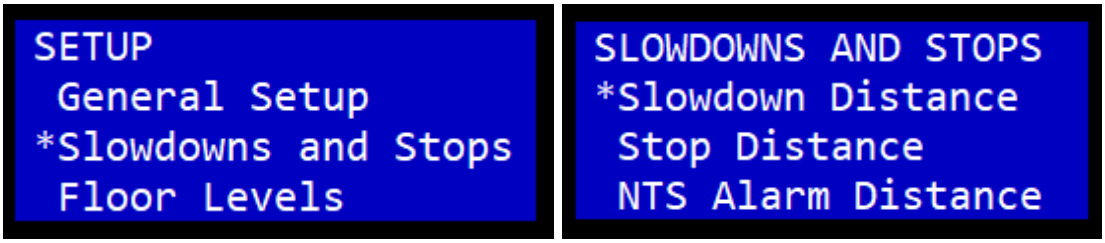

Figure 39: Menu Screen for Slowdown Setting

5. To adjust the slowdown in the up direction, select SLOWDOWN GOING UP. The screen will show 3 rows: top row will be in feet and inches; the middle row will be a 5-digit number and the bottom row will be a *. Move the * below one of the 5 digits (using the left and right buttons) and using the up and down buttons, change the middle row number to see the change in the top row feet and inches. To get a longer time in leveling speed, increase the slowdown distance and to get a shorter leveling time, decrease it. Do the same for the down direction if needed.

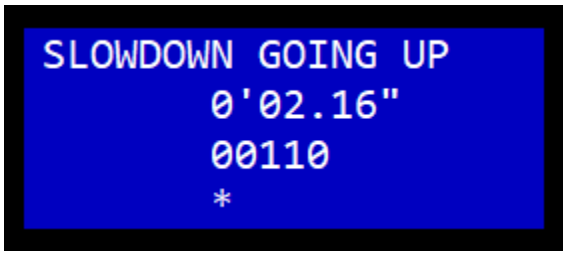

Figure 40: Up Slowdown Distance Adjustment

Recommended leveling distance table:

CONTRACT SPEED (FPM)	*LEVELING DISTANCE (FEET & INCHES)*
40	0’ 08.00”
60	0’ 12.00”
80	1’ 04.00”
100	1’ 08.00”
125	2’ 01.00”
150	2’ 06.00”
175	2’ 11.00”
200	3’ 04.00”

6. Enter car calls to every floor and make slowdown adjustments until they are satisfactory.

If the elevator is coming into the floor inconsistently after adjusting the slowdown to the satisfactory setting, it will be required to adjust the leveling stop distance under stop distance setting. Adjusting this setting will mean adjusting the time it goes from commanding leveling speed to commanding zero from the floor level.

The objective of adjusting leveling stop distance is to have the elevator come into the floor leveled consistently on each floor. The top right of the elevator should display “LEVEL” as the elevator stop on each floor. Adjust level stop up and level stop down until this objective is reached.

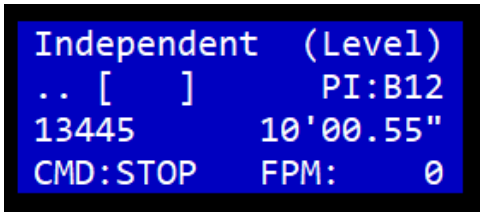

Figure 41: Floor leveled on LCD screen

7. To adjust the leveling stop distance for all floors, go to any of the UI boards, go to MAIN MENU → SETUP → SLOWDOWNS AND STOPS → STOP DISTANCE → WHEN

LEVELING → WHEN GOING UP/WHEN GOING DOWN → GLOBAL VALUE. If the elevator is overshooting the floor level, increase the settings, if the elevator is coming in too short of floor level, decrease the settings.

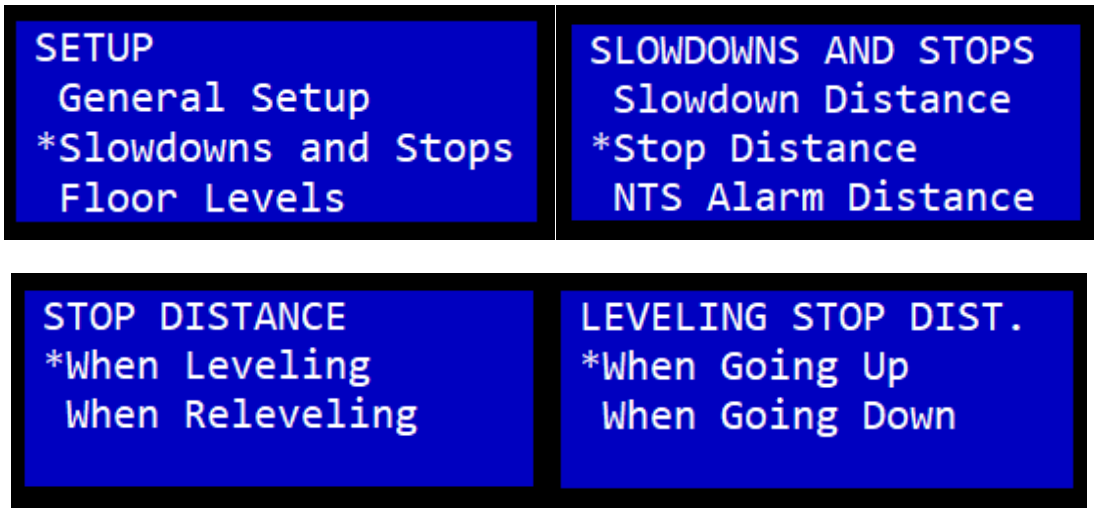

Figure 42: Menu Screen for Leveling Stop Distance

8. To adjust the leveling stop distance for specific floors, go to any of the UI boards, go to MAIN MENU → SETUP → SLOWDOWNS AND STOPS → STOP DISTANCE → WHEN LEVELING → WHEN GOING UP/WHEN GOING DOWN → PER FLOOR VALUES, select the desire floor. If the elevator is overshooting that floor, increase the settings, if the elevator is coming in too short of floor level, decrease the settings.

9. During a releveling operation, the car should hit floor level consistently as well just like on a regular leveling operation. Adjusting the setting RELEVEL STOP UP and RELEVEL STOP DOWN if the elevator is overshooting that floor, increase the settings, if the elevator is coming in too short of floor level, decrease the settings.

Figure 43: Menu Screen for Releveling Stop Up and Down and Adjustment

ADJUSTING FLOOR LEVEL

After setting all the door zones and adjusting the slowdowns/valves, the floors will be need to be adjusted to be floor leveled.

FINE TUNE LEVEL METHOD

Floor level adjustments can only be made at the floor the elevator is currently at. Once the adjustment for the current floor is complete, bring the elevator to the rest of the other floors and make floor adjustments if needed.

Procedure:

1. Put the elevator on independent service to gain control of the elevator.
2. Press a car call button to travel to a floor. Once the doors open, check if the elevator is above or below the sill (if the floor level is good, travel to another floor).
3. If the floor needs to be adjusted, on any UI board (recommended COP UI board for ease) go to MAIN MENU → SETUP → FLOOR LEVELS → FINE TUNE LEVEL.
4. If the elevator is below the sill, set the word "LOW" below the word "Car". Change the 4-digit number circled below in red to get the estimated measurement that the elevator is below the sill. Each of the 4 numbers can be changed individually to get an accurate adjustment.

Figure 44: Menu Screen for Fine Tune Level

5. If the elevator is above the sill, set the word "HIGH" below the word "Car". Change the 4-digit number circled below in red to get the estimated measurement that the elevator is above the sill and press save.

6. Travel to all the other floors in the up or down direction to make any adjustments as needed to the floor level. This will only need to be done in one direction for all floors.

ADJUST ANY FLOOR METHOD

Floor level adjustments can be made for any floor at any time. **The use of this method is used only if the floor level(s) of any floor(s) are known.**

1. On any board, go to MAIN MENU → SETUP → FLOOR LEVELS → ADJUST ANY FLOOR.
2. Change the value to the floor that needs adjusting.
3. Change the 6-digit number circled in red below until the desired height in feet and inches has been made.
4. Continue this process for all known floor level values until complete.

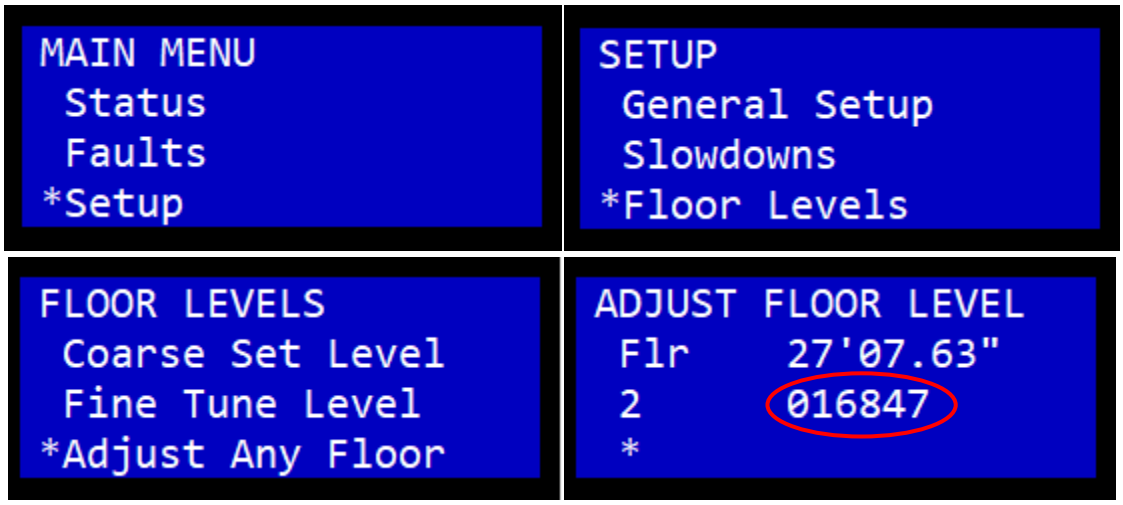

Figure 45: Menu Screen for Adjust Any Floor

FIRE SERVICE

The fire settings inside the controller will be set by Alpha Elevator Controller, depending on how the job is ordered.

Verify that the safety code year in the controller is set appropriately to the building's safety code setting. To check or change this setting go to MAIN MENU → SETUP → FIRE SETUP → SAFETY CODE.

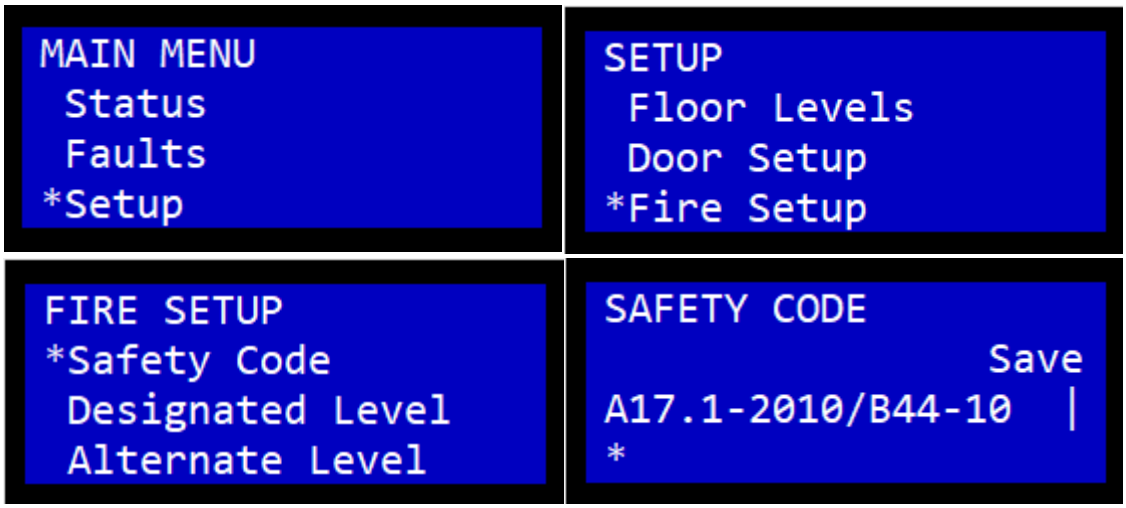

Figure 46: Menu Screen Safety Code Adjustment

Verify that the Designated Level and Alternate Level are set to the correct floor and opening. To check or change this setting go to MAIN MENU → SETUP → FIRE SETUP → DESIGNATED LEVEL or ALTERNATE LEVEL.

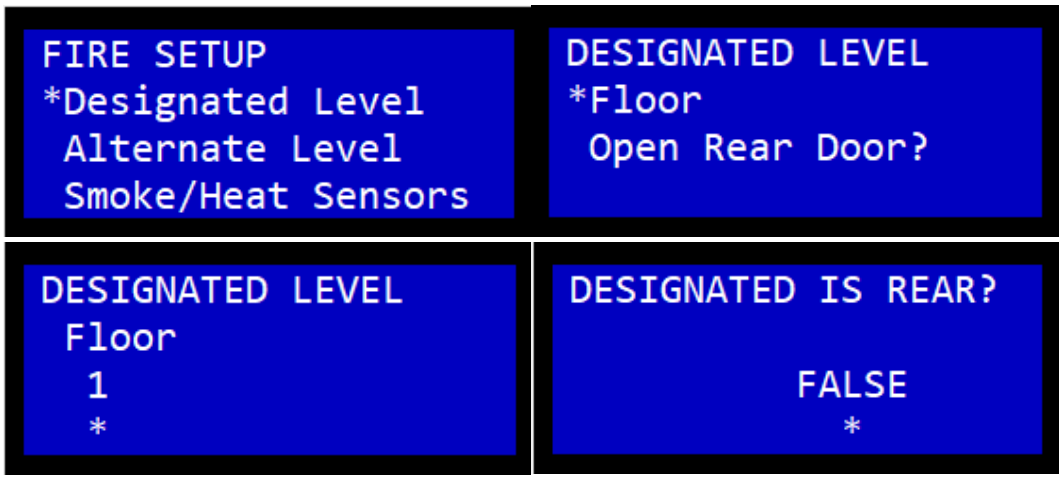

Figure 47: Designated/Alternate Level Adjustment

Verify that the Smoke/Heat Sensors are set to go to the alternate or main recall floor and if required to flash fire hat. To check or change this setting go to MAIN MENU → SETUP → FIRE SETUP → SMOKE/HEAT SENSORS.

SMOKE 1: Smoke sensor(s) located at any floors other than the lobby floor.

SMOKE 2: Smoke sensor located at the lobby floor.

SMOKE 3: Smoke sensor located in the machine room.

SMOKE 4: Smoke sensor located in the hoistway.

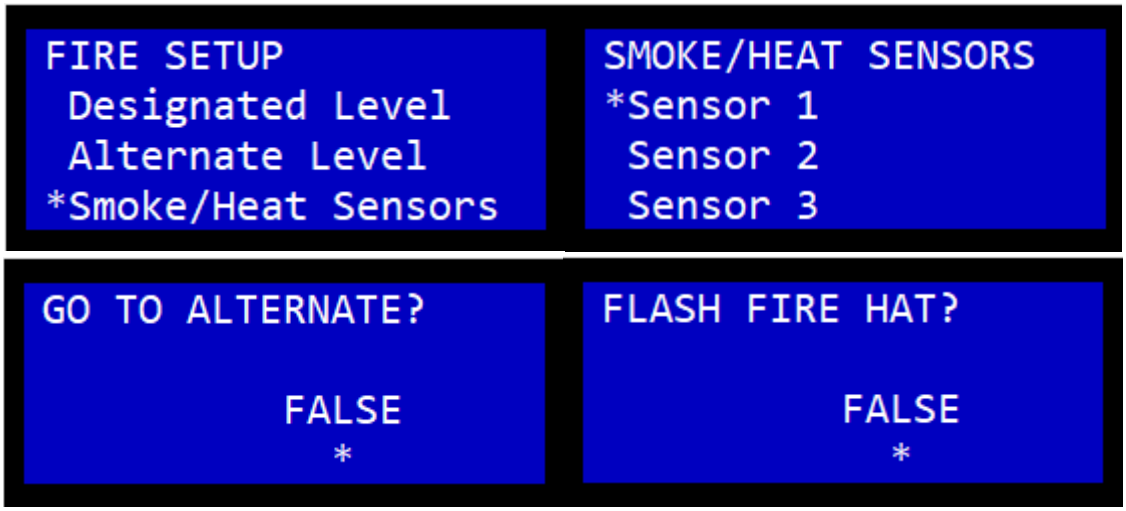

Figure 48: Smoke Sensor Adjustment

HALL BOARD

It is recommended to install hall boards in the hall stations and not in the trough. Also, it is recommended to keep hall board wiring separated from high voltage wires. If hall boards are wired in a halfway box, it is recommended to shield the wires coming into the hall boards.

Hall Boards are used for functions like hall call buttons, hall lanterns, and medical recall. Each opening will have a hall board designated to the opening no matter the function of the hall board. Hall buttons and lamps are to be wired to them for proper hall call operation.

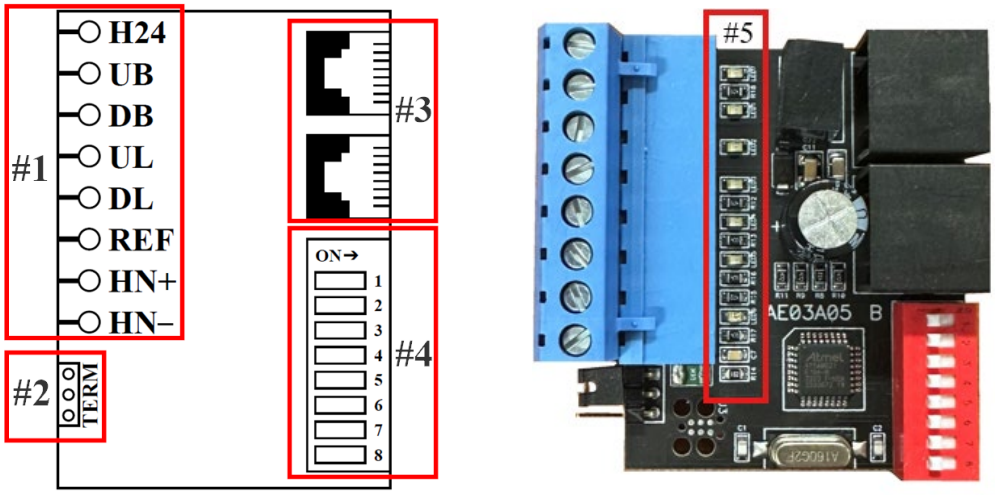

Figure 49: Hall Board Overview

1. Input/Output terminals for hall board

TERMINAL NAME	TERMINAL DEFINITION
H24	HALLWAY 24VDC POWER
UB	UP BUTTON (24VDC INPUT)
DB	DOWN BUTTON (24VDC INPUT)
UL	UP LAMP (DC GROUND SIGNAL WHEN ACTIVE)
DL	DOWN LAMP (DC GROUND SIGNAL WHEN ACTIVE)
REF	DC GROUND SIGNAL (ALWAYS ACTIVE)
HN+	HALL NETWORK POSITIVE COMMUNICATION
HN-	HALL NETWORK NEGATIVE COMMUNICATION

2. Termination jumper
    a. Used to terminate (jump 2 pins away from the terminal plug) last hall board(s) in the daisy chain to indicate the end of the chain. Without the termination being set correctly, the hall network can experience communication issue. Refer to figure

47 and figure 48 for termination jumper. Refer to figure 49-51 for last hall board(s) in daisy chain to be terminated.

Figure 50: Non Terminated Hall Board

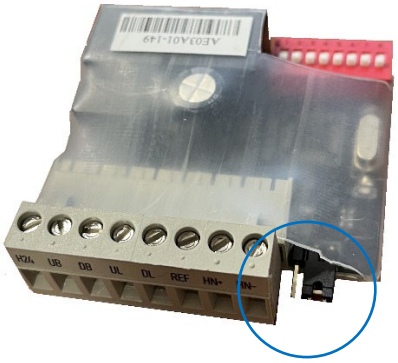

Figure 51: Terminated Hall Board

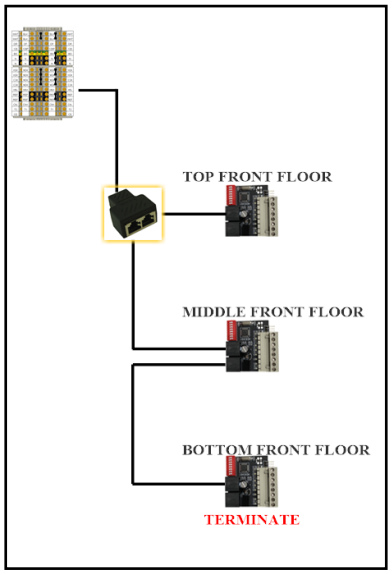

Figure 52: Top to Bottom Daisy Chain

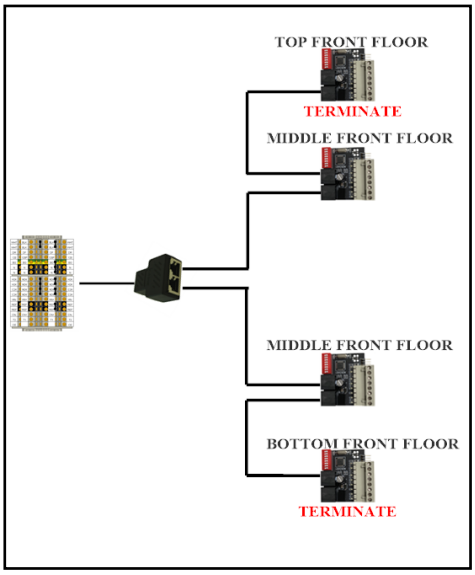

Figure 53: Middle to Top and Bottom Chain

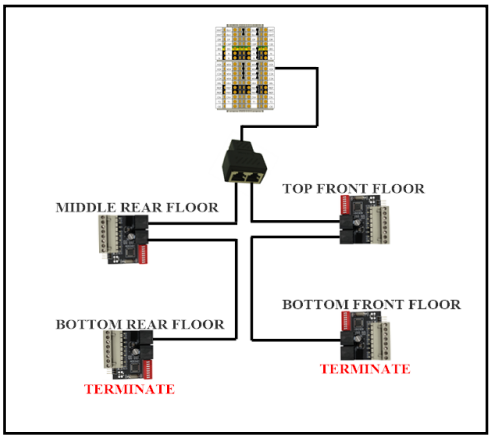

Figure 54: Front and Rear Daisy Chain

3. CAT-5 connection (Standard)
4. DIP Switches – Dip switches for all Lykos hydraulic controllers are universal configurations. Functionality of the hall boards can be set up in the field following the dip switch table below.
    a. Dip Switches 1-5 are used to assign the landing the hall board will be used for. The tables below show the combinations of the 8 dip switches to specify the floor and operation of that board.

DESIGNATED LANDING	DIP SWITCH				
	1	2	3	4	5
LANDING 1	OFF	OFF	OFF	OFF	OFF
LANDING 2	ON	OFF	OFF	OFF	OFF
LANDING 3	OFF	ON	OFF	OFF	OFF
LANDING 4	ON	ON	OFF	OFF	OFF
LANDING 5	OFF	OFF	ON	OFF	OFF
LANDING 6	ON	OFF	ON	OFF	OFF
LANDING 7	OFF	ON	ON	OFF	OFF
LANDING 8	ON	ON	ON	OFF	OFF

    b. Dip switches 6-8 are used to assign the function of the hall board.

FUNCTION	DIP SWITCH		
	6	7	8
HALL CALL FRONT	OFF	OFF	OFF
HALL LANTERN FRONT	OFF	ON	OFF
MEDICAL RECALL FRONT	ON	OFF	OFF
SPECIAL FUNCTION FRONT	ON	ON	OFF
HALL CALL REAR	OFF	OFF	ON
HALL LANTERN REAR	OFF	ON	ON
MEDICAL RECALL REAR	ON	OFF	ON
SPECIAL FUNCTION REAR	ON	ON	ON

5. LEDs

LED #	LED STATUS
LED 1	UB TERMINAL HAS 24VDC
LED 2	DB TERMINAL HAS 24VDC
LED 3	UP LAMP (UP CALL ACCEPTED)
LED 4	DOWN LAMP (DOWN CALL ACCEPTED)
LED 5	HEARTBEAT
LED 6	HEARTBEAT
LED 7	FAULT

To check if the hall boards are communicating, go to MAIN MENU → TEST & TROUBLESHOOT → TEST HALL BOARDS and move the asterisk underneath the dots and press up to match the dip switch setting to the hall board that is being tested. The number from left to right starts from 1 to 8.

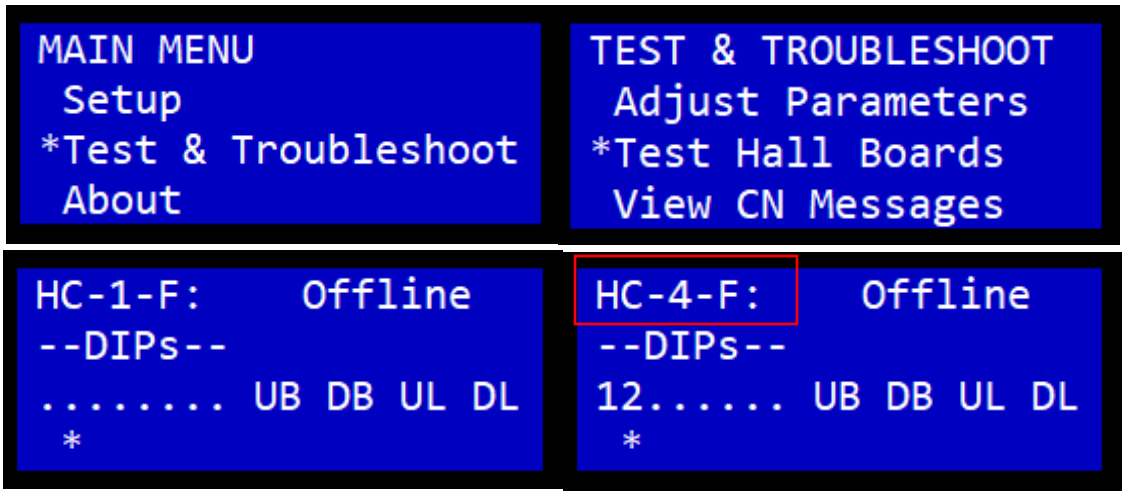

Figure 55: Hall Board Communication

The top left of the screen indicates the function of the hall board, what floor it is, and if it is for a front or rear opening. HC = Hall Calls, HL = Hall Lanterns, MC = Medical Call, and SF = Special Function.

For example, to check if the hall board for landing 4 is communicating, press up for the first two dots to turn on 1 and 2. If the hall board is communicating it will display ONLINE. If it is not communicating, it will display OFFLINE.

Hall Network Hall Board Table

Landing	PI	Fire	Front	Rear	Type	DIP Switch Setting
1	B		X		Hall Call	
2	1	D	X		Hall Call	
3	2	A	X		Hall Call	
4	3		X		Hall Call	
5	4		X		Hall Call	

Figure 56: Example Hall Network Hall Board Table

PROGRAMMING INPUTS/OUTPUTS

Inputs/Outputs can be programmed in the field without any software upgrades needed.

PROGRAMMING AN INPUT

Locate the IO Sheet in the job binder, this IO sheet will display all the inputs and outputs that are already programmed on the controller and their location. Fill out the inputs and outputs on the IO sheet as they are being programmed in the field.

Step 1: Locate the desired input that is needed from the document "**Menu Settings/Parameters**" to find out which category the input will be in.

Step 2: Go to **MAIN MENU → SETUP → INPUTS.**

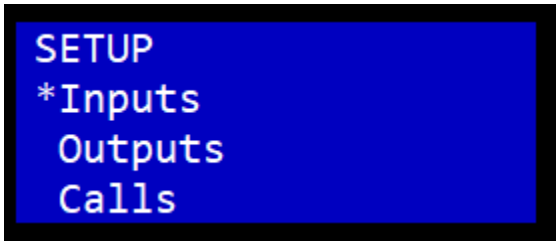

Figure 57: Setup Menu - Inputs

Step 3: Press the middle button with the asterisk on INPUTS. There will be 4 categories: general inputs, door inputs, cop inputs, and per-floor inputs. Select the category where your desired input is located from step 1. This will take you to the screen where all the inputs will be located.

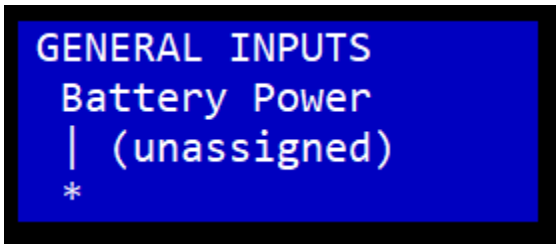

Figure 58: Unassigned Input

Step 4: Press the up/down button until the desired inputs shows on the screen. The desired input should show unassigned, if it does not, the desired input is already programmed in the controller.

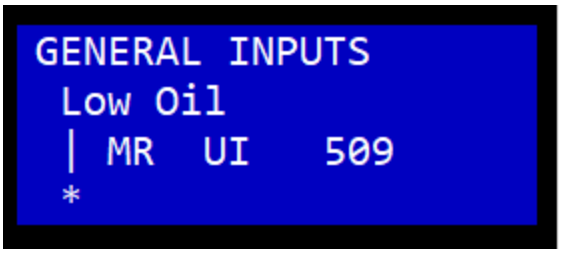

Figure 59: Assigned Input

Step 5: Press the right button once. Press the up button to find the location of where the input will be programmed. The input can be programmed in the MR (Machine Room), CT (Car Top), or COP (Car Operation Panel).

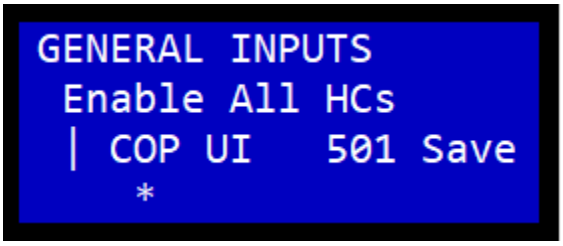

Figure 60: Location Of The Input

Step 6: Press the right button once. Press the up button to find the board the input will be programmed. The input can be programmed on the UI Board or Expansion(s) Board.

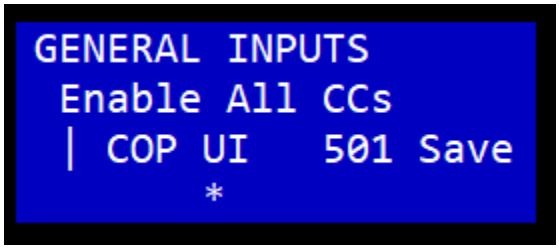

Figure 61: Board Used For The Input

Step 7: Press the right button once. Press the up button to find the number input that will be used on that board for the desired input. Note: Only program the input on an unassigned input, refer to the IO sheet for inputs that are not used. Press the right button to move the asterisk underneath the word save and press the middle button. Fill out the I/O Sheet with the newly programmed input.

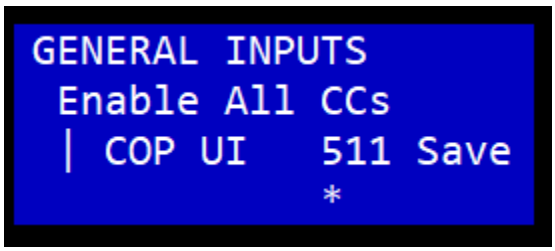

Figure 62: Input # Used

PROGRAMMING AN OUTPUT

Locate the IO Sheet in the job binder, this IO sheet will display all the inputs and outputs that are already programmed on the controller and their location. Fill out the inputs and outputs on the IO sheet as they are programmed in the field.

Step 1: Locate the desired output that is needed from the document "**Menu Settings/Parameters**" to find out which category the output will be in.

Step 2: Go to **MAIN MENU → SETUP → OUTPUTS**

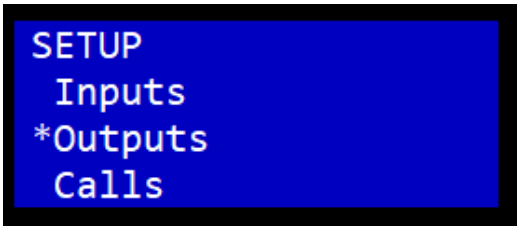

Figure 63: Setup Menu - Outputs

Step 3: Press the middle button with the asterisk on OUTPUTS. There will be 3 locations where the outputs can be programmed on: MR Board, CT Board, and COP Board. Move the asterisk to the location the output will be programmed at and press the middle button.

Figure 64: Location Of The Output

Step 4: Press the up/down button to go to the number output that will be used. Note: Only program the output on an unassigned output, refer to the IO sheet for outputs that are not used.

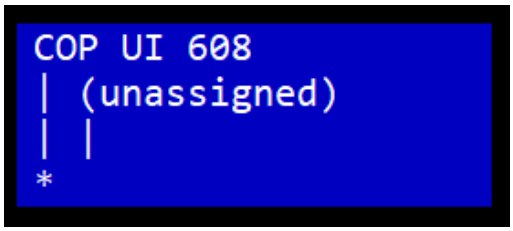

Figure 65: Unassigned Output

Step 5: Press the right button once. Press the up/down button to navigate to the category where the desired output is located.

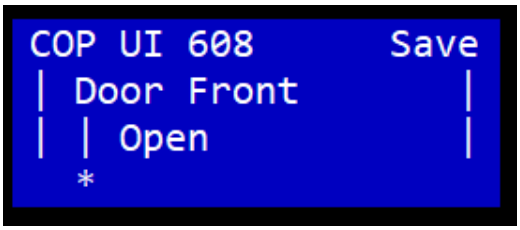

Figure 66: Outputs Category

Step 6: Press the right button once. Press the up/down button to navigate to the desired output. Press the right button to move the asterisk underneath the word save and press the middle button. Fill out the I/O Sheet with the newly programmed output.

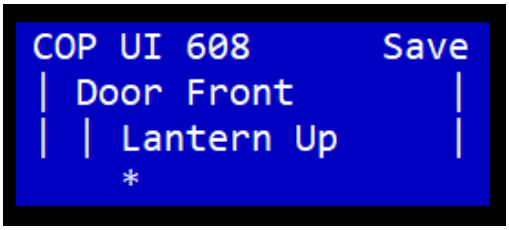

Figure 67: Desired Output

PROGRAMMABLE FEATURES

These features can be programmed in the field without needing any software upgrades.

SETTING UP CAR CALL SECURITY

There are two options of car call security.

OPTION #1 (CAR CALL SECURITY WITH A SECURITY SYSTEM)

Security system will need to provide the controller a normally open contact that is rated for 24VDC.

Step 1: Go to MAIN MENU → SETUP → SECURITY → CAR CALL SECURITY → TYPE OF SECURITY on the UI Board.

Step 2: Press the up button on the UI Board to change it from None to Using UI Inputs and bring the asterisk underneath the word Save and click the middle button.

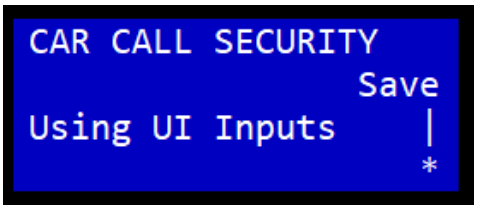

Figure 68: Using UI Inputs for Car Call Security Menu

Step 3: Press the left button to go back out to the SECURITY menu and then press the down button until the asterisk is on the OPENINGS TO SECURE menu and press the middle button.

Step 4: Depending if the configuration is to lockout front car calls or rear car calls, press enter on the desired configuration (Front and/or Rear).

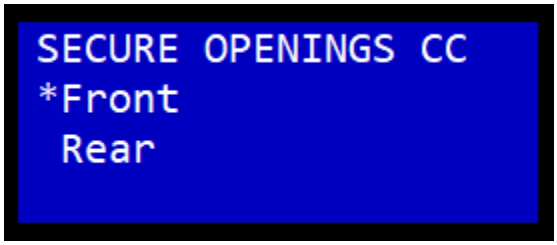

Figure 69: Secure Opening Front/Rear Menu

Step 5: Set the floor(s) that will have car call security to TRUE. To do this, put the asterisk underneath the floor PI, and press the up/down buttons to get to the floor that needs to be locked out. Press the right button to put the asterisk underneath the word FALSE, and press the up button to change it from FALSE to TRUE. Move the asterisk underneath the word Save and click the middle button.

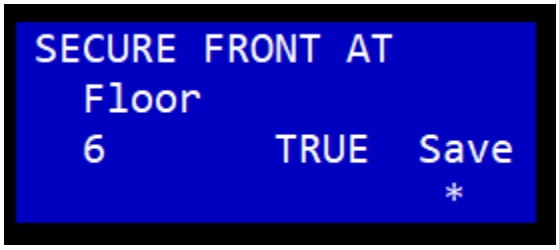

Figure 70: Secure Floor Menu

Step 6: Repeat step 4 and 5 for all floors/openings that will have car call security.

Step 7: To add the front car call security input(s), go to MAIN MENU → SETUP → INPUTS → PER FLOOR INPUTS → FRONT → CAR CALL ENABLES on any UI Board.

Step 8: Press the up button to get to the floor that will be locked out.

Step 9A: To set up car call security inputs on the MR UI Board, press the right button to move it over from |, then press the up button once to set it to MR (Machine Room). Press the right button twice and the asterisk should be underneath the input #. Find an unused input by looking at the IO sheet and press the up button to go to that input #. Press the right button once to put the asterisk underneath the word save and press the middle button.

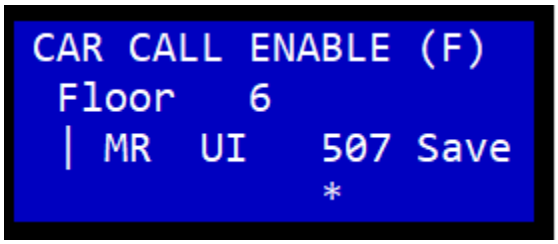

Figure 71: Setting Up Security Input Menu

Step 9B: To set up car call security on the COP UI Board, press the right button to move it over from |, then press the up button three times to set it to COP (Car Operation Panel). Press the right button twice and the asterisk should be underneath the input #. Find an unused input by looking at the IO sheet and press the up button to go to that input #. Press the right button once to put the asterisk underneath the word save and press the middle button.

Step 10: To add rear car call security input(s), go to MAIN MENU → SETUP → INPUTS → PER FLOOR INPUTS → REAR → CAR CALL ENABLES on the UI Board. Repeat step 8 and 9.

Step 11: Repeat step 8 and 9 until all floors desired have a programmed input. Wire in the security normally open contact to the input(s) programmed. One side of the normally open contact will go to the M24/C24 terminal block and the other side will go to the input programmed.

EXTRA SECURITY FEATURES:

- ***To have independent service override security, go to MAIN MENU → SETUP → SECURITY → IND. SRV. OVERRIDES, and set it to TRUE and SAVE.***
- ***To have the door open button function on a secured floor, go to MAIN MENU → SETUP → SECURITY DOB → OVERRIDES, and set it to TRUE and SAVE.***

OPTION #2 (CAR CALL SECURITY USING COP BUTTONS)

This option will be setting up access codes using the COP buttons as a security keypad. No external security system is needed.

Step 1: Go to MAIN MENU → SETUP → SECURITY → CAR CALL SECURITY → TYPE OF SECURITY on a UI Board.

Step 2: Press the up button on the UI Board to change it from None to Using ACCESS CODES and bring the asterisk underneath the word Save and click the middle button.

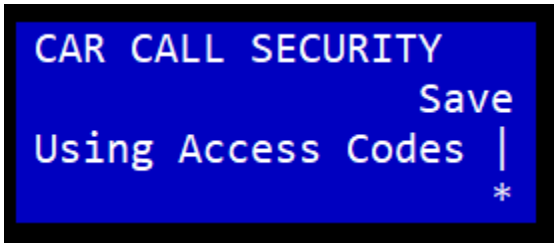

Figure 72: Using Access Codes for Car Call Security Menu

Step 3: Press the left button to go back out to the SECURITY menu and then press the down button until the asterisk is on the SECURE OPENINGS menu and press the middle button.

Step 4: Depending if configuration is to lockout front car calls or rear car calls, press enter on the desired configuration (Front and/or Rear).

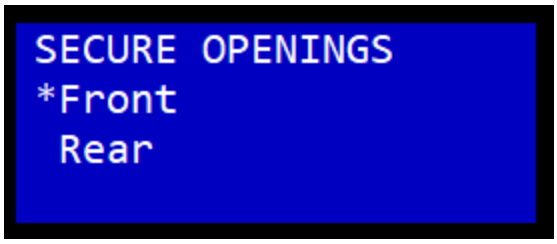

Figure 73: Secure Opening Front/Rear Menu

Step 5: Set the floor(s) that will have car call security, to TRUE. To do this, put the asterisk underneath the floor PI, and press the up button to the floor that is needed to be locked out. Press the right button underneath the word FALSE, and press the up button to change it from FALSE to TRUE and bring the asterisk underneath the word Save and click the middle button.

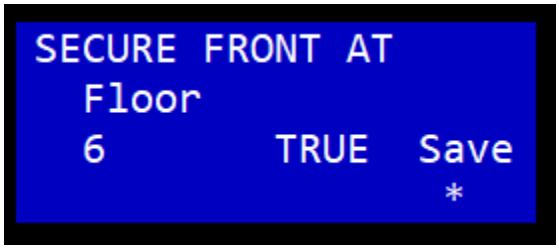

Figure 74: Secure Floor Menu

Step 6: Repeat step 4 and 5 for all floors/openings that will have car call security.

Step 7: Press the left button to go back out to the SECURITY menu and then press the down button until the asterisk is on the COP Access Codes menu and press the middle button.

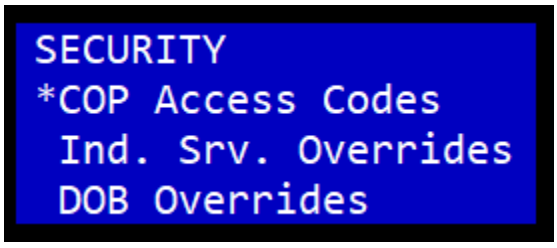

Figure 75: Security Menus – COP Access Codes Selected

Step 8A: Press the up button to go to the floor that will be locked out using an access code. If setting up access code security for front opening, press the right button once. Press the up botton once and then move the asterisk underneath any of the 4 PI labels and press up to change the code to the desired number. After changing the 4 PI labels to the desired number press the right button until the asterisk is underneath the word Save and press the middle button.

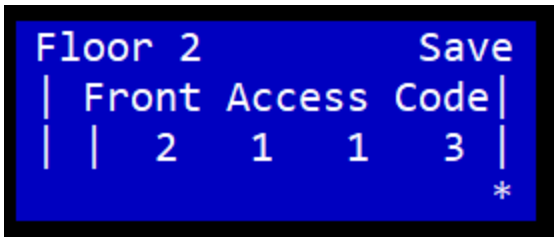

Figure 76: Setting up Access Codes Per Floor for Front Opening

Step 8B: Press the up button to go to the floor that will be locked out using an access code. If setting up access code security for rear opening, press the right button once. Press the up button once and then move the asterisk underneath any of the 4 PI labels and press up to change the code to the desired number. After changing the 4 PI labels to the desired number press the right button until the asterisk is underneath the word Save and press the middle button.

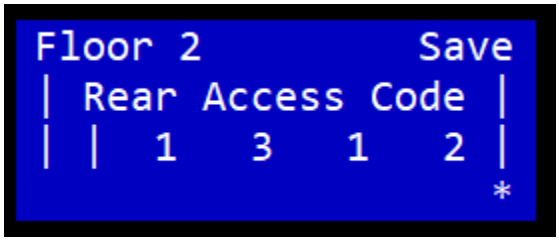

Figure 77: Setting up Access Codes Per Floor for Rear Opening

Step 9: Repeat step 8 until all the desired floors are set to the desired access code.

Step 10: There is an option to put a master code to override all secured floors. To set this up, go to the COP Access Code Menu and scroll down to the All Access Code menu and press the middle button.

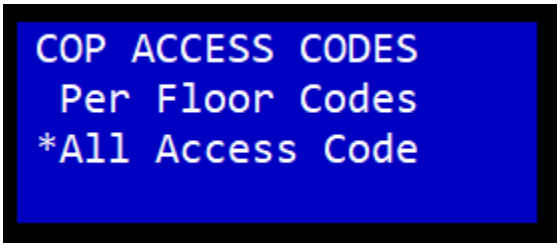

Figure 78: COP Access Codes menu – All Access Code Selected

Step 11: The 4 digit code is set to the bottom floor by default, which disables the override code. To enable it, change any of the 4 digit code to anything, but the bottom floor. To change the code, press the right button to move the asterisk underneath any of the 4 digit and press up/down to change the value. After the code is set, press the right button to move the asterisk underneath the word save and press the middle button.

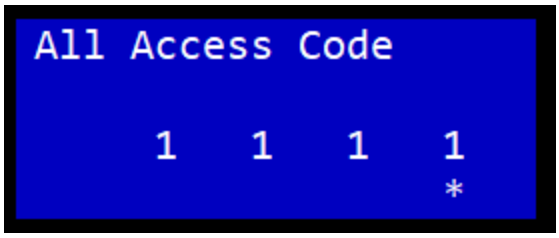

Figure 79: Override Secured Floor Disable

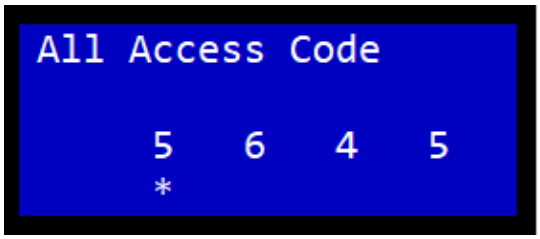

Figure 80: Override Code Set and Enabled

EXTRA SECURITY FEATURES:

- ***To have independent service override security, go to MAIN MENU → SETUP → SECURITY → IND. SRV. OVERRIDES, and set it to TRUE and SAVE.***
- ***To have the door open button function on a secured floor, go to MAIN MENU → SETUP → SECURITY → DOB OVERRIDES, and set it to TRUE and SAVE.***

SETTING UP FLOOD SENSOR

Flood sensor will need to be a normally close 24VDC contact by default. If the job was ordered with flood only do step 1.

Step 1: Go to MAIN MENU → SETUP → SPECIAL OPERATION → FLOOD SETUP → FLOOD SAFE FLOOR and press the up button to select the desired flood floor. (The flood floor would mean that the elevator will not be able to access any floor below the flood floor during a flood operation, if set to the second landing, the elevator will be not be able to go to the 1st landing). After selecting the desired floor , move the asterisk underneath the word save and press the middle button.

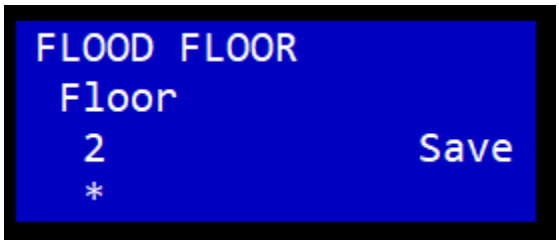

Figure 81: Flood Floor Selection Menu

Step 2: To set up the flood sensor input, go to MAIN MENU → SETUP → INPUTS → GENERAL INPUTS, press the up button until the flood sensor option is displayed.

Step 3: Press the right button once, press the up button once to set it to MR (Machine Room). Press the right button twice and the asterisk should be underneath the input #. Find an unused input by looking at the IO sheet and press the up button to go to that input #. Press the right button once to put the asterisk underneath the word save and press the middle button.

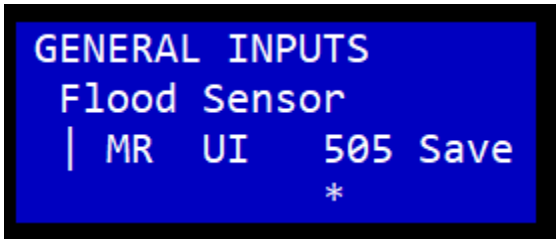

Figure 82: Setting Up Flood Sensor Input Menu

Step 4: Wire in the flood sensor contact to the input programmed. One side of the normally close contact will go to H24 terminal block and the other side will go to the input programmed.

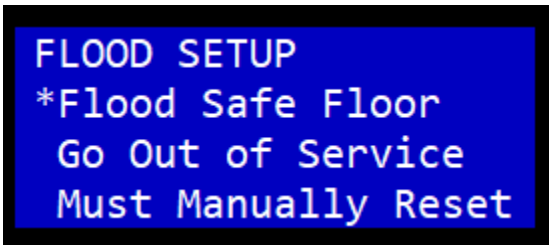

Figure 83: Extra Flood Features

EXTRA FLOOD FEATURES:

- ***To have elevator go out of service when flood sensor is activated, go to MAIN MENU → SETUP → SPECIAL OPERATION → FLOOD SETUP → GO OUT OF SERVICE, and set it to TRUE and SAVE.***
- ***To have the flood operation only be able to be reset by pressing the clear fault button, go to MAIN MENU → SETUP → SPECIAL OPERATION → FLOOD SETUP → MUST MANUALLY RESET, and set it to TRUE and SAVE.***
- ***To have the buzzer sound when on flood operation, go to MAIN MENU → SETUP → SPECIAL OPERATION → FLOOD SETUP → SOUND BUZZER, and set it to TRUE and SAVE.***

SETTING UP SABBATH

Sabbath operation is running floor to floor with doors opening and closing in the up direction then the down direction.

Step 1: Go to MAIN MENU → SETUP → SPECIAL OPERATION → SABBATH → ACTIVATE SABBATH, and set it to TRUE than click SAVE.

EXTRA SABBATH FEATURES:

- ***To have elevator skip certain floors on sabbath operation, go to MAIN MENU → SETUP → SPECIAL OPERATION → SABBATH → FLOORS TO SKIP, FRONT/REAR and set the desired floor/opening to TRUE and SAVE.***
- ***To have the door dwell at the lobby on sabbath operation for a specific amount of time, go to MAIN MENU → SETUP → SPECIAL OPERATION → SABBATH → DWELL AT LOBBY, set the desired time and SAVE.***
- ***To have the door dwell at a non lobby floor on sabbath operation for a specific amount of time, go to MAIN MENU → SETUP → SPECIAL OPERATION → SABBATH → DWELL AT NON-LOBBY, set the desired time and SAVE.***

SETTING UP PARKING

SIMPLEX Parking:

Step 1: Go to MAIN MENU → SETUP → PARKING → SIMPLEX PARKING → ENABLE PARKING and press the up button to set this to TRUE and press the right button once to put the asterisk underneath the word save and press the middle button.

Step 2: Press the left button until back on the SIMPLEX PARKING menu, press the down button to go to the PARK FLOOR menu and press the middle button. Press up until the desired floor is selected to park on and move the asterisk underneath the word Save and press the middle button.

Step 3: Press the left button until back on the SIMPLEX PARKING menu, press the down button to go to the PARK DELAY TIME menu, and press the middle button. Change the value to the desired time of elevator being idle with no command before initiating a parking operation, a value of 000 will indicate that parking is disabled. To do this move the asterisk underneath each digit and press the up button to change the number, this will be in seconds. Once the desired time has been entered, move the asterisk underneath the word Save and press the middle button.

EXTRA PARKING FEATURES:

- ***To have elevator park with front doors open, go to MAIN MENU → SETUP → PARKING → SIMPLEX PARKING → PARK W/FRONT OPEN, and set it to TRUE.***
- ***To have elevator park with front doors open, go to MAIN MENU → SETUP → PARKING → SIMPLEX PARKING → PARK W/REAR OPEN, and set it to TRUE.***

SETTING UP VISCOSITY

Viscosity will need to be a normally open 24VDC contact by default. If the job was ordered with viscosity only do step 1.

Step 1: Go to MAIN MENU → SETUP → HYDRAULIC OPTIONS → VISCOSITY → VISCOSITY TIMER, and set the value to the desired time in seconds that the pump motor would stay on for until the viscosity contact opens. Note: If the timer is set to 000, viscosity operation is disabled.

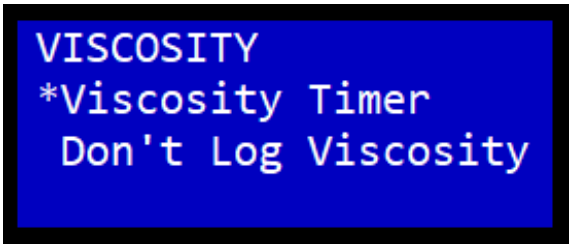

Figure 84: Viscosity Menu Setting

Figure 85: Viscosity Timer Setting

Step 2: To set up the viscosity input, go to MAIN MENU → SETUP → INPUTS → GENERAL INPUTS, press the up button until the oil viscosity option is displayed.

Step 3: Press the right button once, press the up button once to set it to MR (Machine Room). Press the right button twice and the asterisk should be underneath the input #. Find an unused input by looking at the IO sheet and press the up button to go to that input #. Press the right button once to put the asterisk underneath the word save and press the middle button.

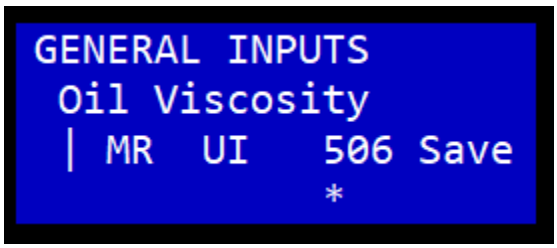

Figure 86: Setting Up Oil Viscosity Input Menu

Step 4: Wire in the viscosity contact to the input programmed. One side of the normally open contact will go to M24 terminal block and the other side will go to the input programmed.

SETTING UP JACK RESYNC

Jack Resync Operation can be activated by timer(s) or by an input.

OPTION 1: JACK RESYNC VIA TIMER(S)

Step 1: Go to MAIN MENU → SETUP → HYDRAULIC OPTIONS → JACK RESYNC TIMER BASED and set the desired time(s) to have the elevator activate a jack resync. There is a max of 4 times that jack resync can be activated throughout the day. To do this, click on the menu TIMER 1, and than click the up button until the desired time is shown on the screen. Press the right button once to put the asterisk underneath the word save and press the middle button. (Time is adjustable in increments of 15 minutes)

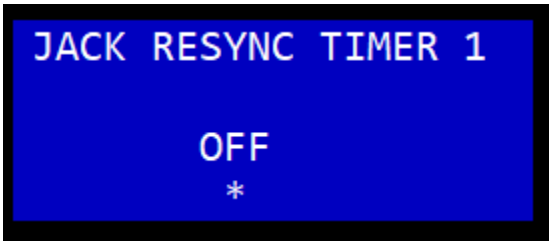

Figure 87: Jack Resync Disabled

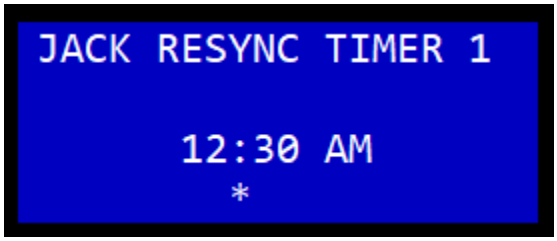

Figure 88: Jack Resync Operation Time Start

Step 2: To activate jack resync at multiple times of the day, adjust menus "Timer 2 to Timer 4" as necessary.

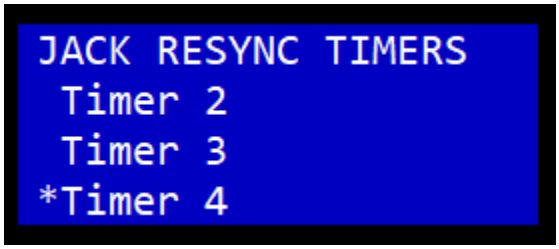

Figure 89: Multiple Jack Resync Timer Menu

OPTION 2: JACK RESYNC VIA INPUT

Step 1: To set up the jack resync input, go to MAIN MENU → SETUP → INPUTS → GENERAL INPUTS, press the up button until the jack resync option is displayed.

Step 2: Press the right button once, press the up button once to set it to MR (Machine Room). Press the right button twice and the asterisk should be underneath the input #. Find an unused input by looking at the IO sheet and press the up button to go to that input #. Press the right button once to put the asterisk underneath the word save and press the middle button.

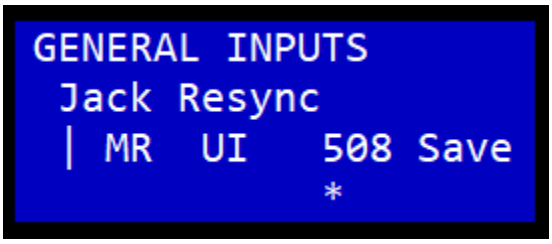

Figure 90: Setting Up Jack Resync Input Menu

Step 3: Wire in the jack resync contact to the input programmed. One side of the normally open contact will go to M24 terminal block and the other side will go to the input programmed.