C4

USER MANUAL

VERSION 6.1

SMARTRISE

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Date	Version	Summary of Changes
June 29, 2026	6.01	· Reviewed the Timed Hall Call Security section under the Floors / Security section in the Features and Modes of Operation tab. · Replaced the NEMA 4 Landing System sections with the ELGO Landing System under the Landing System tab.
June 18, 2026	6.0	· Review, visual and structural redesign of the manual.
October 23, 2025	5.04	· Replaced category-based lists of faults and alarms with single number-based lists.
August 4, 2025	5.03	· Added the Car Call Sequential Step Scanning section. · Added the Auto Mode Generic Output under the Types of Outputs subsection.
May 5, 2025	5.02	· Reviewed the flow charts in the *Sequence of Operation* section.
April 14, 2025	5.01	· Reviewed the *Timed Hall Call Security* subsection under the *Floors* section. · Reviewed the *Types of Inputs* subsection under the *Assigning Inputs and Outputs* section.
March 24, 2025	5.0	· Removed Hydro-related details.
February 25, 2025	4.13	· Added the *Short Floor* section.
January 29, 2025	4.12	· Added the *Smartrise Air Mobile Application* subsection under the *Miscellaneous* section.
January 20, 2025	4.11	· Added the BYPASS WANDERGUARD NEXT CC input under the *Types of Inputs* subsection. · Added the HOISTWAY LAMP & AT LANDING LAMP outputs under the *Types of Outputs* subsection. · Reviewed the *Direction Counter Limit* subsection under the *Miscellaneous* section.
November 5, 2024	4.10	· Added the *Sequence of Operation* section.
September 9, 2024	4.9	· Added the BYPASS LWD input under the *Types of Inputs* subsection.
August 23, 2024	4.8	· Added the *Split Group Masks* subsection to the *Hall Network* section. · Added a note on short floor to the *Sensory Array Assembly* subsection under the *SmartPositioning Landing System* section. · Added a note on short floor to the *Proximity Sensor Assembly* subsection under the *NEMA 4 Landing System* section.
June 17, 2024	4.7	· Replaced “S-curve” with “Digital S-curve Technology ™ (U.S. Patent Pending)”.
June 3, 2024	4.6	· Updated the *CPLD* subsection under the *Status* section.
May 27, 2024	4.5	· Updated the *Logged Faults* and *Logged Alarms* subsections. · Added the Active Shooter output. · Added the Clear Latched Calls input.
May 20, 2024	4.4	· Added the *Replay Feature* subsection to the *Miscellaneous* section.

Date	Version	Summary of Changes
April 5, 2024	4.3	· Added the *Dynamic Security* subsection to the *Virtual Inputs* subsection (under the *Status* section).
March 15, 2024	4.2	· Updated document presentation. · Validated & updated the menu structures, LCD displays, tables, document content. · Replaced the "*Overview*" title with "*List of C4 Traction Manuals*". · Added the *NEMA 4 Landing System* section. · Added the *Lockout Passcode* subsection to the *Miscellaneous* section. · Added the *Direction Counter Limit* subsection to the *Miscellaneous* section. · Added the *Reset Service* subsection to the *Miscellaneous* section. · Added the *Ph1 Recall Floor sub*section to the *EMS* subsection (under the *Emergency* section). · Added the *Hall Medical Rear Door Mask sub*section to the *Hall Network* section. · Added the *Load Weighing Device* section. · Added the *List of Faults* subsection to the *Faults* section. · Added the *List of Alarms* section to the *Alarms* section. · Added the *List of Abbreviations* section. · Added the *References* section. · Updated the *List of C4 Traction Manuals* section. · Updated the *Wander Guard* section. · Updated the *EMS* section. · Updated the *Access Code* section. · Deleted the *Enable Old FRAM* section [UI section]. · Deleted the *Enable Landing Inspection* section [UI section].
October 25, 2021	4.1	· Added the *24 Input Board* section. · Removed the *Manual Traction Test* section.
September 30, 2021	4.0	· Added the Advanced Configuration section. · Added the *Hoistway Access Slide Distance* section. · Added the *Hall Call Security* section. · Combined all car data information into one section. · Added I/O definitions. · Added the *Input Status* section. · Updated the *Access Code* section. · Added description to the *Floor Adjustment* section. · Added the *Invert Outputs* section. · Added the *Recall Key* section. · Deleted the *Sabbath Dwell Timer* section. · Moved the Sabbath Operation to the SETUP menu. · Added the *VIP* section. · Added the *Active Shooter* section.

Date	Version	Summary of Changes
		· Added the *Marshal Mode* section. · Replaced the brackets used on Sensor Array Assembly. · Added the *Swing Opening* section. · Added an Enter Door Command display when only front doors are configured. · Added the *Door Type* section. · Added the *Brakes* section.
November 13, 2020	3.1	· Added Emcan LWD reference and Hall board 12 DIP Hall Mask Mapping switch settings.
October 30, 2020	3.0	· Deleted the *Load Weighing* section and created a reference to the C4 Load Weighing manual. · Deleted the DAD connection procedure and created a reference to the C4 GUI manual. · Replaced the Emergency section. · Updated all menu structures. · Replaced CT and COP figures due to jumper. · Replaced Digital S-curve Technology ™ (U.S. Patent Pending) drawing with a more detailed drawing. · Added a 12-DIP configuration Hall board. · Added and deleted menu functions. · Added reference to specific drive when wiring C4 for Construction Mode. · Added *Debug, About, Status, XREG, Attendant,* and *Parking* sections. · Expanded *Doors, Faults, Alarms, Floors, Digital S-curve Technology ™ (U.S. Patent Pending),* and *Speed* sections to include additional menu descriptions and procedures.
August 15, 2019	2.0	· Updated the cover page. · Added menu structures. · Added the *Soft Limit* section. · Added the *Sabbath Operation* section. · Added the *Load Weighing* section. · Added the *Alarms* section. · Added in-depth process descriptions. · Added the *NTS/ETS* section. · Added the *Profile, Parameters* and *Controlling Initial Start of Car Motion* subsections to the *Digital S-curve Technology ™ (U.S. Patent Pending)* section. · Deleted the Faults table and added the reference to the C4 Faults and Alarms document.
March 28, 2019	1.0	· Initial Release.

SEQUENCE OF OPERATION

1 Overview

The information below provides a basic understanding of how Smartrise's traction elevator controller system operates.

2 Car Movement

Movement of the elevator begins with the controller in the idle state. It remains in this state until a demand is entered into the system. The controller then begins the start of the run sequence. Once this is completed, the elevator car moves at a "run speed" until the slowdown point for the destination. The controller then switches the car to leveling speed until the destination is achieved. At that point, the end of the run sequence is initiated to bring the car to a full stop and return it to the idle state.
The idle state is the state in which the car remains stopped. The outputs controlling the drive are turned off as is the brake control output. The controller remains in this state until a demand to move is entered into the system. The demand to move is usually a car call or a hall call entered by a passenger pressing a call button. A demand can also come from a special operation mode like fire service where a recall to the egress floor is initiated by a smoke sensor or manually by the Fire Phase 1 key switch. Regardless of what initiates the demand, the controller will determine the destination floor and switch to the start of run sequence.

The start of run sequence is the set of operations that are performed in order to transition the elevator from a stopped condition to that of being in motion. To move the car, the controller first commands the drive to hold the car at zero speed. This causes the drive to energize the motor but not cause it to rotate. This is done because the brake is not yet lifted, and running the car under the brake is undesirable. Also, if the brake was lifted prior to developing sufficient flux in the motor to hold the car, then a rollback could occur as the brake releases the car. The brake should remain set until the drive is in control of the motor. A programmable timer called "Brake Pick Delay" allows specifying how long to wait before lifting the brake after commanding zero speed. Another timer, called "Motor Energize Delay" specifies how long to hold the car at zero speed before commanding it to move.

Movement of the car involves commanding a "Run Speed". The Smartrise controller allows field programming of up to 8 Run Speeds. A Run Speed is the speed commanded based on the initial destination. The controller will determine the distance to the first floor at which it must stop. It will then examine all the preprogrammed speeds and slowdown distances and choose the fastest speed available that can achieve the destination.

As the car runs, the destination may change. This normally occurs when a call button is pressed for a floor located between the elevator's current position and the current destination. When this happens, the controller will determine if the new destination is achievable based on the elevator's speed, position, required slowdown distance, and location of the new demand. If the controller software determines that the new demand is achievable, the current destination is updated to the location of the new demand and the run continues. If the controller software determines that the demand is not achievable, then the car will continue to the original demand and answer the new demand when the car returns in the opposite direction. A programmable Slowdown Distance parameter tells the controller at what point it needs to drop out of high speed when approaching a destination. Since the Smartrise controller receives continuous position feedback from the landing system, there is no need for hoistway magnets or switches to perform slowdowns. All slowdowns are set electronically on the computer as a distance in feet and inches. When the elevator is less than this slowdown distance from the destination, the controller will automatically command the drive to drop to leveling speed.

Once the car is at leveling speed, it begins looking for a DZ (Door Zone) magnet. Every floor in the building is marked with a single DZ magnet. When the elevator arrives at the magnet, the controller begins counting pulses from the landing system to detect how far into the magnet the car has travelled. During the controller installation, the floor level parameters were set, specifying how far from the bottom and top edges of the DZ magnet the car must travel. When these stop points are properly set, the car will stop at level with the floor. The programmed stop point for the floor will generally be a fraction of an inch before true floor level to allow time for the end of the run sequence to carry the car to the actual level position.

The end of the run sequence consists of commanding zero speed, dropping the brake, and then removing the run command from the drive. Programmable timers allow sequencing to avoid harsh stops or rollbacks at the end of the run. The Brake Drop Delay specifies the time between commanding the drive to hold at zero speed and dropping the brake. The time should be long enough to allow the motor to stop the car before dropping the brake. If the time is too short, then the car will stop under the brake causing a harsh stop. The Run Drop Delay specifies how long to wait after dropping the brake before removing the run from the drive. If this time is too short, a rollback can occur.

Once fully stopped, the car returns to the idle state where it awaits the next demand.

The flow chart below displays the sequence of operation for the car operation.

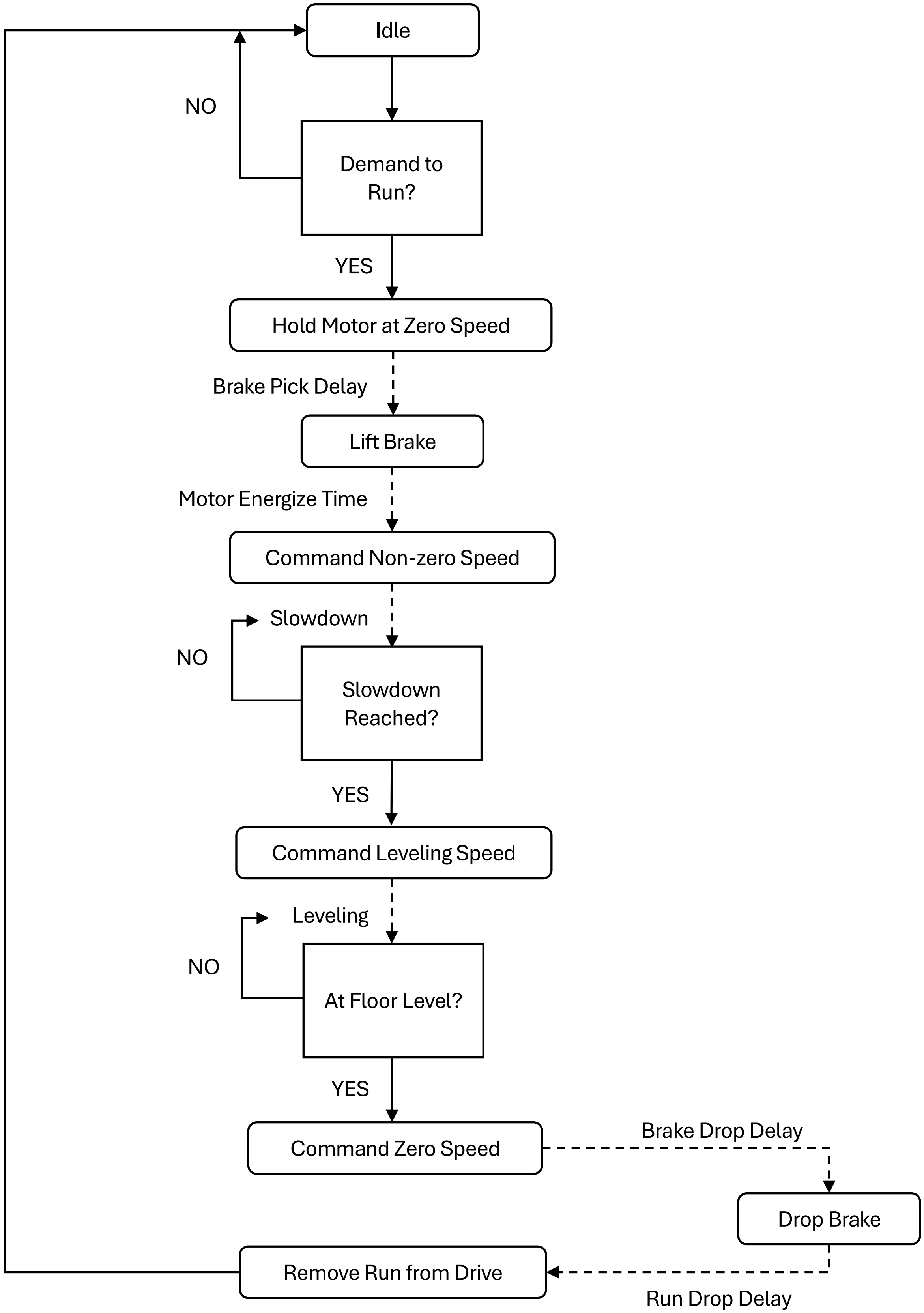

Figure 1: Car Movement

3 Door Operation

Door operation begins with the doors in the idle (closed) state. The doors remain in this state until an open request is received. The controller then initiates a door open signal to the door operator. This causes the doors to open. Once the doors are fully open, they remain in the dwell (fully opened) state until a close request is received. The controller then asserts the door close output to the door operator to cause the doors to close. Once the doors are fully closed, they return to the idle state.

In the idle state, the door outputs are normally off. When the car is running, the DC (Door Close) output is normally on. This provides power to keep the doors from accidentally opening due to vibrations as the car runs. This operation can be disabled using the "DC On Any Move" parameter on the controller's Door Setup menu. The doors will remain in the idle state until a demand to open occurs.

A demand to open occurs either when the car arrives at a floor in response to a call or when the car is stopped at a floor and the Door Open Button or a Car call or Hall call at that floor is pressed. When this happens, the controller asserts the DO (Door Open) output to the door operator to open the doors. The DO output remains on until the doors are fully opened as indicated by the DOL (Door Open Limit) contact on the door operator. Once the doors are fully open, the DO output is removed, and the doors are in the dwell (fully opened) state.

The doors remain fully open in the dwell state until a demand to close is present. In normal operation, the demand to close occurs when the doors have been fully open for the Dwell Time specified under the Door Setup menu. The dwell time can be shortened if the Door Close Button is enabled and pressed. The dwell time can be extended if a Door Hold Button is present or if the controller has been programmed to park with the doors open. The Door Hold Button will extend the dwell time for a programmable number of seconds. The Park with Doors Open parameter will keep the doors open until a call demand is entered.

Once a demand to close occurs, the DC output will be activated, and the doors will close. While the doors are in the process of closing, several events can cause them to abort the close and reopen. These events include the pressing of the Door Open Button, a call button at the floor, or the Door Hold button. Additionally, an obstruction detected by the safety edge or photoeye will cause a reopen. When the door reopens, a reduced dwell time is normally used before an attempt to close is made once again. If the doors remain obstructed for an extended period of time, an optional parameter under the Door Setup menu allows the controller to attempt to nudge the doors closed. When nudging, the DC and ND (Nudge) outputs are asserted simultaneously to cause the doors to close at reduced torque. During this operation, the safety edge and photoeye are ignored as the controller attempts to clear the obstruction.

The door operation described so far has been for automatic opening and closing. There is also a mode for continuous pressure opening and closing. This is normally used during Fire Phase II and Independent Service. On Fire Phase II, the firefighter in the car must apply constant pressure on the Door Open Button to open the doors. If the button is released before the doors are fully open, the doors immediately reclose. Likewise, once the doors are fully open, constant pressure must be applied to the Door Close Button to close the doors. If the button is released before the doors are fully closed, they will reopen.

Independent Service utilizes the constant pressure door close operation but allows a Car Call Button to be used in place of the Door Close Button if desired. Opening of the doors on Independent Service is done automatically.

The flow chart below displays the sequence of operation for the door operation.

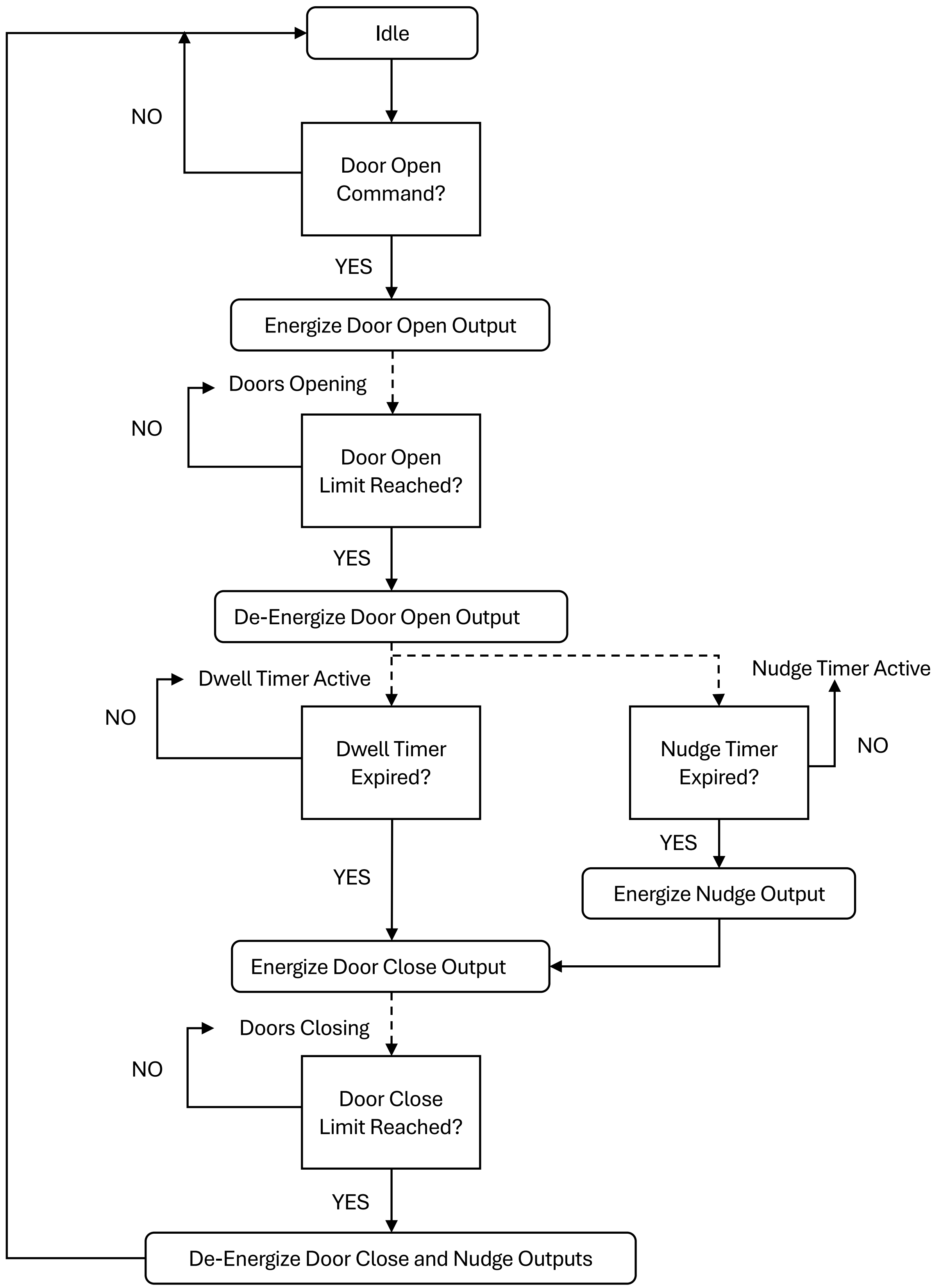

Figure 2: Door Operation

CONTROLLER PACKAGE CONTENTS

1 C4 Controller Package Contents

This document outlines the components included in a standard C4 controller package from Smartrise.

Figure 3: Controller Package Sample Unboxed

Figure 4: Controller Hardware Sample Unboxed

Figure 5: Unistrut

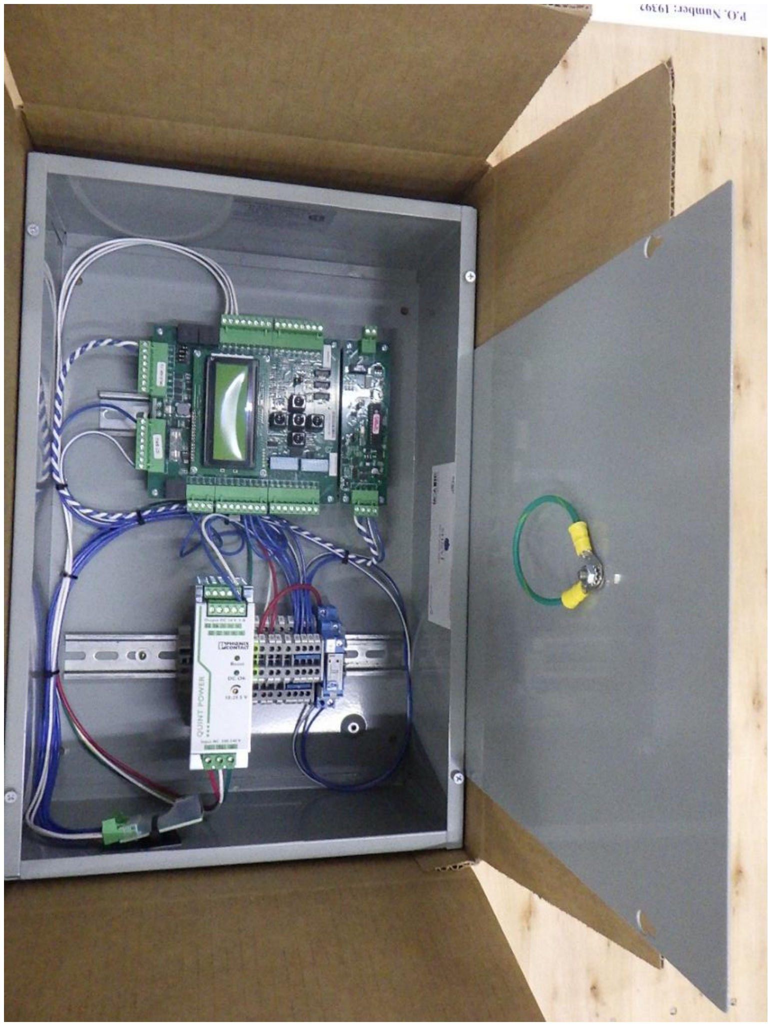

Figure 6: Controller Car Top

Figure 7: Inspection Box, Light Guard, 15ft CAT5

Figure 8: COP SRU Board

Figure 9: Enclosure Keys, USB, C4 User Manual, Drive Manual

Figure 10: Landing Tape Unboxed

Figure 11: Landing System Tape Hardware – DZ Blade, Camera, Extension, Upper & Lower Tape Mount, Landing System User Manual

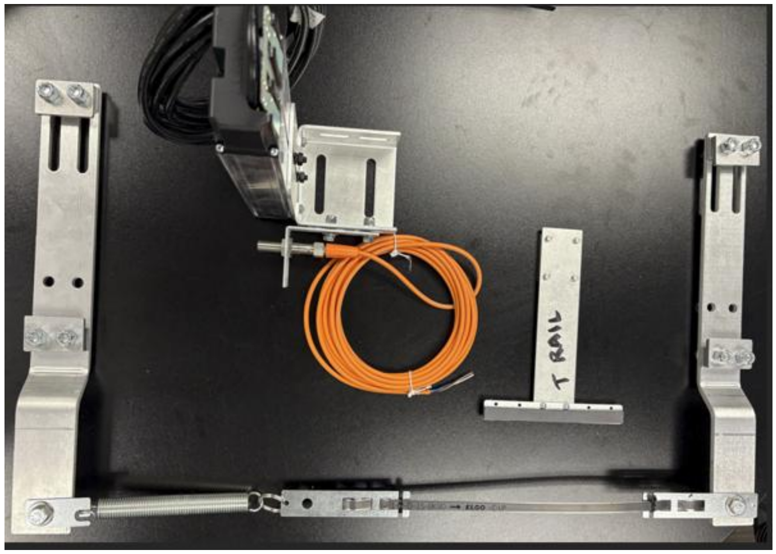

Figure 12: ELGO Landing System, T-Rail

Figure 13: CAT5 Package

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INSTALLATION GUIDE

1 Review Job Specifications

Before beginning installation or configuration, it is essential to verify that all project documentation matches the controller and site requirements.

Refer to the job prints provided with the controller to ensure all specifications align with the project scope.

Be sure to verify the following on the **C4 Electrical Drawing**:

- **Job Name and Job Number** on the **Cover Sheet**.
- **Job Specifications** on the **Job Data Sheet**.

2 Implement Safe and Effective Grounding

A proper and effective ground connection is essential for the safe and reliable operation of the controller. Ensure that each elevator controller disconnect is provided with a sufficient earth ground from the building, which must be connected to the earth ground terminal (PE) inside the elevator controller

NOTE: The ground wire size must match the AWG size of the internal ground lug wire inside the controller.

The system includes one or more common ground bus terminal blocks (PE).

The building, motor, transformer, and filter(s) must all share a common ground. Improper grounding can lead to various issues in modern elevator control systems. Proper grounding eliminates ground loops, reduces impedance, and diverts electrical noise safely to ground.

3 Review Voltage Settings

While Smartrise makes every effort to deliver equipment that is ready for installation out of the box, incomplete project information may require the use of default settings. These defaults are applied to protect the equipment from high voltage-related issues.

For instance, if the door operator for a specific job operates at 240 VAC but Smartrise was not informed during the engineering phase, the DR breaker (door operator voltage supply) will be set to 120 VAC by default as a safety precaution.

Before powering on the controller, verify that the voltage settings configured by Smartrise match the requirements of the installed equipment. Refer to the provided electrical drawings for confirmation.

4 Mount Controller

Mount and secure the controller in accordance with the applicable state and local codes for the job.

5 Set Up Main Power

This section describes how to safely connect the main power supply to the system before initiating construction activities.

Procedure:

1. Verify that the main disconnect switch is in the **OFF** position.

2. Ensure all green push breakers are in the **up** (OFF) position (i.e. M24, H24, R24, DR, 120, PS, etc.)

3. Verify that the L1/L2 breaker is in the **OFF** position.

   - Green = OFF
   - Red = ON

4. Connect the main line power to terminal block **L1/L2/L3**.

5. Connect the ground wire to the **yellow/green ground terminal block** locatd next to the L1/L2/L3 terminals.

6. Connect the motor leads to the **M contactor** at terminals T1/T2/T3.

7. Connect the main brake wires to terminals **K1** and **K2**.

8. Rope Gripper:

   i. If a rope gripper is being used, ensure it is pinned open, then proceed to step 9.
   ii. If a rope gripper is not being used, proceed to step 9.

9. Secondary Sheave Brake:

   i. If a secondary sheave brake is being used, connect it to terminals J1 and J2.The process is complete.
   ii. If a secondary sheave brake is not being used, the process ends.

6 Set Up Construction Mode

Follow the wiring connections as shown in the **C4 Electrical Drawing, Car Tables Sheet** to operate the controller in Construction mode.

7 Set Up Drive

This section explains how to set up the drive.

The setup required to run the controller in Construction Mode depends on the drive being used. Follow the steps in the corresponding **C4 Drive Startup Manual** – available within the system – to complete the motor tuning operation.

If the elevator runs at a low speed (approximately 10 FPM) after completing the Construction Mode setup, it indicates that the drive is operating in Normal Terminal Stopping Device (NTSD) mode. NTSD must be disabled while in Construction Mode.

- **KEB:** Set Input 1 function (LI04) to No Function instead of ESD or NTS 1.

- **M1000 or HPV900S2:**

  - Ensure **NTSD MODE** is set to **EXTERNAL** in the C1 menu.
  - Set **Logic Input 3** to **No Function** instead of **NTS INPUT 1**.

All drive parameters are preconfigured by Smartrise before the drive is shipped to the field.

7.1 Selecting the Type of Drive

The drive type selection depends on the system configuration.

Use the following steps to select the correct drive:

1. Navigate to **Main Menu | Setup | Drive Setup | Drive**.
2. Scroll and select the drive being used.
3. Scroll right and press **Save**.

7.2 Enable Drive Edit

C4 drive information can be updated through the User Interface (UI).

Follow these steps to enable drive editing via the UI:

1. Navigate to **Main Menu | Setup | Drive Setup | Enable Drive Edit**.
2. Scroll and select **ON**.
3. Scroll right and press **Save**.

8 Set Up Wiring

Set up all wiring per the **C4 Electrical Drawing**.

9 Mount Car Top

Position and secure the Car Top assembly in accordance with the applicable state and local codes for the job.

10 Set Up Normal Mode

Set the controller to Normal mode by disconnecting the jumper between **MM** and **M24**, then switch the **Inspection/Normal** toggle to the **NORMAL** position.

11 Set Up Speeds

This section outlines how to set the speeds.

11.1 Contract Speed

The Contract speed refers to the maximum speed the elevator was configured to operate at for a specific job. If the Contract speed is increased, the car will travel faster – up to the new configured limit. When increasing the speed on the MR board, the drive's speed must also be adjusted accordingly, and the system must be capable of supporting the updated speed.

- **Adjustment Range:** 10-1600 FPM
- **Default:** Job Specific
- **Unit:** FPM

To Set Contract Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Contract Speed**.
5. Set the Contract speed.
6. Scroll right and press **Save**.
7. Power Cycle.

11.2 Inspection Speed

The C4 controller uses pattern generation to perform all runs, including Inspection runs. As a result, there is a built-in ramp-up to the Inspection speed at the start of the run and a ramp-down to zero speed when the run is released.

Inspection run speed is configurable. Increasing the speed causes the car to travel faster, while decreasing it results in slower operation.

The controller will fault if the speed feedback exceeds 150 FPM during Inspection.

- **Adjustment Range:** 0–150 FPM
- **Default:** 50 FPM
- **Unit:** FPM

To Verify or Adjust Inspection Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Inspection Speed**.
5. In the **INSPECTION SPEED** menu, confirm the speed value is between 0 and 150 FPM. If set above 150 FPM, a fault will occur until the value is adjusted to 150 FPM or less.
6. Scroll right and press **Save**.

11.3 Access Speed

Access speed is the set speed of the elevator during hoistway access. An overspeed fault occurs if the speed feedback is higher than 150 FPM. If the speed is increased, the car travels faster. If the speed is decreased, car runs slower.

- **Adjustment Range:** 0-150 FPM
- **Default:** 20 FPM
- **Unit:** FPM

To Set Access Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Access Speed**.
5. Set the Access speed.
6. Scroll right and press **Save**.

11.4 Learn Speed

The Learn speed must be verified before beginning the hoistway learning process. Set the Learn speed to a maximum of **25 FPM**. Operating at a higher speed during hoistway learning may result in errors.

To Set Learn Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Learn Speed**.
5. Verify the Learn speed.
6. Scroll right and press **Save**.

11.5 E-Power Speed

E-Power speed is the speed of the car during emergency power operation. If the speed is increased, the car will run faster during emergency power operation. A generator might not be able to handle higher speeds and slower speeds might be required. If decreased, the car runs slower. This speed cannot be set higher than contract speed.

- **Adjustment Range:** 0-1600 (or Contract speed) FPM
- **Default:** 10 FPM
- **Unit:** FPM

To Set E-Power Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **EPower Speed**.
5. Set the EPower speed.
6. Scroll right and press **Save**.

11.6 Terminal Speed

Terminal speed sets the speed of the car while on inspection and within the configured soft limit distance of a terminal floor. If speed is increased, the car runs faster when approaching the terminal floor. If the speed is decreased, the car runs slower.

- **Adjustment Range:** 0-30 FPM
- **Default:** 15 FPM
- **Unit:** FPM

To Set Terminal Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Terminal Speed**.
5. Set the Terminal speed.
6. Scroll right and press **Save**.

11.7 Leveling Speed

The leveling speed is the set speed in automatic operation when leveling to a floor during leveling distance section of the speed curve. If the speed is increased, the car may overshoot the landing. If the speed is decreased, the car would decelerate directly to the floor.

- **Adjustment Range:** 0-20 FPM
- **Default:** 5 FPM
- **Unit:** FPM

To Set Leveling Speed:

1. Navigate to **Main Menu**.

2. Go to **Setup**.

3. Go to **Speeds**.

4. Go to **Leveling Speed**.

5. Set the speed when levelling to a floor.

6. Scroll right and press **Save**.

11.8 NTSD Speed

The NTSD speed is the set speed when the NTS point is tripped. If the speed is increased, the car will have a harsher stop. If the speed is decreased, the car will run slower and may timeout before reaching the floor during NTS event.

- **Adjustment Range:** 1-20 FPM
- **Default:** 10 FPM
- **Unit:** FPM

To Set NTSD Speed:

1. Navigate to **Main Menu**.

2. Go to **Setup**.

3. Go to **Speeds**.

4. Go to **NTSD Speed**.

5. Set the speed for approaching the landings.

6. Scroll right and press **Save**.

11.9 Minimum Acceleration Speed

The minimum acceleration speed is the minimum speed the controller will use at the start of the run instead of zero speed. This speed will be held at the start of the run during the Accel Delay phase. If speed is increased, the initial start speed will increase which prevents rollback. If speed is decreased and roll back is present, it would delay the take-off of the elevator. See Section **4.8.3 Synthetic Speed Torque** for more details on rollback adjustment.

- **Adjustment Range:** 1-25 FPM
- **Default:** 1 FPM
- **Unit:** FPM

To Set Minimum Acceleration Speed:

1. Navigate to **Main Menu**.

2. Go to **Setup**.

3. Go to **Speeds**.

4. Go to **Minimum Acceleration Speed**.

5. Set the minimum acceleration speed.

6. Scroll right and press **Save**.

11.10 Minimum Relevel Speed

The minimum relevel speed is the minimum speed used when releveling. If speed is increased, there is a quick recovery from rollback, but may cause overshoot. If speed is decreased, roll back may occur.

- **Adjustment Range:** 1-25 FPM
- **Default:** 1 FPM
- **Unit:** FPM

To Set Minimum Relevel Speed:

1. Navigate to **Main Menu**.

2. Go to **Setup**.

3. Go to **Speeds**.

4. Go to **Minimum Relevel Speed**.

5. Set the minimum relevel speed.

6. Scroll right and press **Save**.

11.11 Test A/D Speed

Test A/D speed is the set speed during an ascending or descending overspeed test.

To Set the A/D Speed for Overspeed Test:

1. Navigate to **Main Menu**.

2. Go to **Setup**.

3. Go to **Speeds**.

4. Go to **Test A/D Speed**.

5. Set the ascending and descending speed.

6. Scroll right and press **Save**.

11.12 Test Buffer Speed

The test buffer speed is the speed set during buffer tests.

- If the speed is set equal to contract speed, the car will move at high speed.
- If the speed is anything else than contract speed, the car will move at the leveling speed.

To Set the Test Buffer Speed:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Speeds**.
4. Go to **Test Buffer Speed**.
5. Set the buffer speed.
6. Scroll right and press **Save**.

12 Set Up Floors & Openings

The Number of Floors setting defines how many floors the car will recognize within the building. These settings are configured at the factory and should only be adjusted if they differ from the original order.

To set the Number of Floors:

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Floors**.
4. Go to **Number of Floors**.
5. Set the correct number of floors.

   NOTE: This total should include any **express zones** that are serviced by other cars in the group. The **opening map** will reflect only the floors served by the selected car.

6. Scroll right and press **Save**.

To set Floor Openings (Front or Rear):

If rear openings are required, first enable rear doors: **Main Menu** → **Setup** → **Door Setup** → **Rear Door** → **Set to ON**, then set DIP B2 to the ON position on the MR & CT.

1. Navigate to **Main Menu**.
2. Go to **Setup**.
3. Go to **Floors**.
4. Go to **Opening (Front or Rear)**.

5. Select the specific floors where the **front and/or rear doors** should open.

6. Scroll right and press **Save**.

13 Learn the Hoistway

This section explains how to learn the hoistway.

Before starting the hoistway learn process, ensure the following:

- The number of floors and openings is correctly configured.
- The process is performed at or below 25 FPM (feet per minute).
- All faults and alarms in Construction and Inspection mode are resolved, and the DZ magnet is installed 2 inches above the bottom floor level, and 2 inches below the top floor level. This provides an extra safety buffer, reducing the risk of the car hitting the ring buffer (up direction) or car buffer (down direction).

Procedure:

Make sure Fire Service signals are active. If not, the elevator may enter Fire Service mode after the Hoistway Learn is complete.

1. Bring the car to either the **top** or **bottom** terminal landing.

2. Confirm the **DZ (door zone) input** to the CT board is high either by checking the **top right corner of the Main Screen** or by viewing the **Status** menu (see step 3).

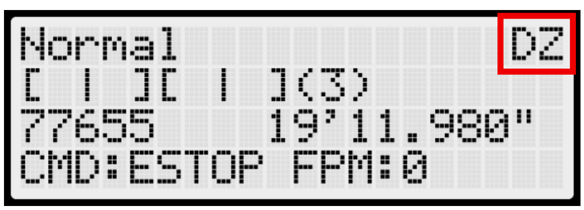

Figure 14: Check DZ Status from Main Screen

3. Navigate to **Main Menu | Status | Inputs**.

4. On the MR board, **turn ON DIP switch 5A**.

5. The Main screen should change from **Normal** to **Hold UP/DN to Start**.

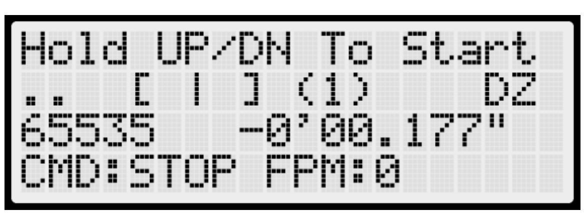

Figure 15: Normal to Hold UP/DN To Start

6. Depending on the car's position:

- If the car is at the **top landing**, press and hold **Enable + Down** until the car starts moving.
- If the car is at the **bottom landing**, press and hold **Enable + Up** until the car starts moving.

7. When the car stops, the screen will display **Learn Complete**.

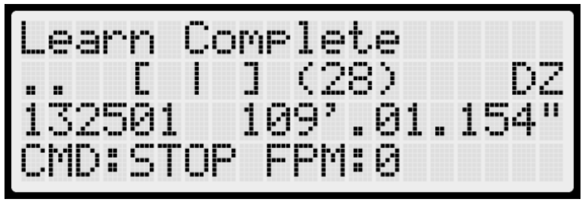

Figure 16: Learn Complete

8. On the MR board, **turn OFF DIP switch 5A**.

14 Floor Leveling Corrections

In some cases, the car may stop off level. When this occurs, additional floor level adjustments are required.

14.1 Car is Too High/ Too Low

One method of correcting the floor level is by using the Too High/Too Low feature. If the car stops before floor level, increase the distance by the amount the car needs to move up. If the car stops above floor level, decrease the distance by the amount the car needs to move down.

NOTE: This adjustment should be made in only one direction – either up or down – where the offset is observed. As a result, the offset will be corrected in a single direction.

Follow these steps to adjust the floor level using the Too High/Too Low feature:

1. Navigate to **Main Menu | Setup | Floors**.

2. From the Floors menu, scroll and select **Too High/Too Low**.

3. If the car is stopping too low or too high:

   i. If the car stops too low, go to step 4.
   ii. If the car stops too high, go to step 5.

4. From the **Adjust Floors** menu, adjust the stopping point so the car stops at the exact floor level.
   For example, if the car stops 0.5" below the floor level, add that distance to the learned position.
   Go to step 6.

5. From the **Adjust Floors** menu, adjust the stopping point so the car stops at the exact floor level.
   For example, if the car stops 0.5" above the floor level, remove that distance to the learned position.

6. Scroll right and press **Save**.

The **Adjust Floors** menu displays the following:

- **Adjust Floors [1]:** The floor the car is currently at.
- **[1] +001.791":** The distance the car needs to be adjusted to stop at floor level.
- **01 = +00000091:** The counts that determine the amount of distance needed for floor leveling.

14.2 Store Floor Level

Another method for adjusting floor levels is to use the Store Floor Level feature. This function records and saves the current car position as the correct floor level reference.

Follow these steps to adjust the floor level using the Store Floor Level feature:

1. Place the car in Inspection mode.
2. Place the car exactly at the floor level.
3. Navigate to **Main Menu | Setup | Floors**.
4. From the **Floors** menu, scroll and select **Store Floor Level**.
5. From the **Store Floors** menu, scroll and select the floor's position that is being changed.

   NOTE: Only store the floor currently being adjusted. Storing the wrong floor will trigger a "Need to Learn" fault and require a full hoistway relearn.

6. Scroll right and press **Save**.

15 Set Up Fire

Install the fire service jumpers as shown in the **C4 Electrical Drawing, Riser Board Connections Sheet**.

16 Set Up Hall Board

Configure the Hall Board DIP switch setting according to the **C4 Electrical Drawing, Hall Call Dip Switches Sheet**.

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FAULTS & ALARMS

1 Faults

The Faults menu displays all faults reported by the system's software and hardware.

1.1 Active Faults

When a fault is detected, its type and description appear under the Active Faults menu. Active faults may prevent the car from operating.

Follow these steps view the list of Active Faults:

1. Navigate to **Main Menu | Faults | Active**.
2. Review the list of faults currently preventing operation.
3. Scroll through the list and press the right button for a detailed description of each fault.

1.2 Logged Faults

All system faults are logged. The Logged Faults menu shows the fault history – up to 32 entries on the CT and COP boards, and up to 256 on the MR board.

Follow these steps to view the list of Logged Faults:

1. Navigate to **Main Menu | Faults | Logged**.
2. Review the list of previously recorded faults.

1.3 Cleared Faults

The Cleared Faults option deletes the entire fault history log.

Follow these steps to Clear the Logged Faults:

1. Navigate to **Main Menu | Faults | Clear Log**.
2. Press the right button and select Yes to confirm.

The table below lists the faults that may be reported by the software or hardware component.

Table 1: Faults Reported by Software or Hardware

Option	Description
CPLD	Depicts faults generated by hardware system.
MRA	Depicts faults generated on processor A of the MR board.
MRB	Depicts faults generated on processor B of the MR board.
CTA	Depicts faults generated on processor A of the CT board.
CTB	Depicts faults generated on processor B of the CT board.
COPA	Depicts faults generated on processor A of the COP board.
COPB	Depicts faults generated on processor B of the COP board.

1.4 List of Faults

The table below provides a list of possible system faults.

Table 2: List of Faults

Fault Number	Name	Definition	Solution
1	Governor	Governor safety input is currently low.	Check wiring and safety contacts.
2	Governor (L)	Governor fault is latched.	Press the EBRK RST button to clear.
3	EB1 Drop	EB1 relay is currently dropped.	NA
4	EB1 Drop (L)	EB1 fault is latched.	Press the EBRK RST button to clear.
5	Unintended Move	A GSW and Lock is open, and the car is more than two and a half inches from the nearest learned floor position. The movement direction disagrees with the commanded.	Check wiring and safety contacts.
6	Unintended Move (L)	Unintended movement fault is latched.	Press the EBRK RST button to clear.
7	Traction Loss	Car speed has deviated from the motor encoder speed by an adjustable percentage.	Confirm system and drive contract speed match.
8	Traction Loss (L)	Traction loss fault is latched.	Press TLOSS button to clear.
9	Speed Dev	Car speed has deviated from the command speed by an adjustable percentage.	Confirm system and drive contract speed match, clean CEDES tape, or reduce Digital S-curve Technology ™ (U.S. Patent Pending) values.
10	IC Stop Sw	In car stop switch (COP-SF2) input is missing.	Check wiring and safety contacts.
11	Redun. LRB	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
12	Redun. LRM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
13	Redun. LRT	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
14	Redun. LFB	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.

15	Redun. LFM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
16	Redun. LFT	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
17	Redun. ATU	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
18	Redun. ATD	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
19	Redun. ABU	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
20	Redun. ABD	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
21	Redun. Car Byp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
22	Redun. HA Byp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
23	Redun. MM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
24	Redun. SFM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
25	Redun. SFH	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
26	Redun. PIT	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
27	Redun. IP Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
28	Redun. MR Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
29	Redun. IL Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.

30	Redun. C EB2	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
31	Redun. C SFM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
32	Redun. M EB2	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
33	Redun. M SFM	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
34	Redun. M EB3	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
35	Redun. M EB1	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
36	Redun. M SFP	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
37	Redun. C EB3	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
38	Redun. C EB1	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
39	Redun. C SFP	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
40	Redun. GSWR	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
41	Redun. GSWF	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
42	Redun. CT Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
43	Redun. CT Stop Sw	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
44	Redun. Esc Hatch	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.

45	Redun. Car Safety	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
46	Redun. Fire Stop Sw	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
47	Redun. IC Stop	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
48	Redun. IC Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
49	Redun. HA Insp	Input read by the main MCU system and the CPLD safety system do not match.	Verify the board has its RDC jumper on.
50	SFP Stuck Lo	SFP relay is stuck in the OFF position.	Verify the relay is tightly seated on its connector.
51	SFP Stuck Hi	SFP relay is stuck in the ON position.	Verify the relay is tightly seated on its connector.
52	SFP Drop	SFP relay has been dropped.	Investigate the fault issued by the CPLD.
53	EB3 Stuck Lo	EB3 relay is stuck in the OFF position.	Verify the relay is tightly seated on its connector.
54	EB3 Stuck Hi	EB3 relay is stuck in the ON position.	Verify the relay is tightly seated on its connector.
55	EB4 Stuck Lo	EB4 relay is stuck in the OFF position.	Verify the relay is tightly seated on its connector.
56	EB4 Stuck Hi	EB4 relay is stuck in the ON position.	Verify the relay is tightly seated on its connector.
57	EB1 Stuck	EB1 relay is stuck.	Verify the relay is tightly seated on its connector.
58	M Cont. Stuck Hi	M contactor is stuck in the ON position.	Check the wiring to and from the M contactor.
59	M Cont. Stuck Lo	M contactor is stuck in the OFF position.	Check the wiring to and from the M contactor.
60	B2 Cont. Stuck Hi	B2 contactor is stuck in the ON position.	Check the wiring to and from the B2 contactor.
61	B2 Cont. Stuck Lo	B2 contactor is stuck in the OFF position.	Check the wiring to and from the B2 contactor.
62	HA Bypass Sw	Hall door bypass switch is ON.	Turn off machine room board H-DOOR switch.
63	Car Bypass Sw	Car door bypass switch is ON.	Turn off machine room board C-DOOR switch.
64	General OVSP	Car speed exceeded 110% of contract speed.	Confirm system and drive contract speed match or reduce

			Digital S-curve Technology ™ (U.S. Patent Pending) values.
65	General OVSP (L)	Car overspeed fault is latched.	Press EBRK RST button to clear.
66	Insp OVSP	Car speed exceeded 150 fpm in inspection mode.	Confirm system and drive contract speed match.
67	OVSP DO GSWF	Car speed exceeded 150 fpm with front gateswitch open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
68	OVSP DO LFT	Car speed exceeded 150 fpm with front top lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
69	OVSP DO LFM	Car speed exceeded 150 fpm with front middle lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
70	OVSP DO LFB	Car speed exceeded 150 fpm with front bottom lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
71	OVSP DO GSWR	Car speed exceeded 150 fpm with rear gateswitch open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
72	OVSP DO LRT	Car speed exceeded 150 fpm with rear top lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
73	OVSP DO LRM	Car speed exceeded 150 fpm with rear middle lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
74	OVSP DO LRB	Car speed exceeded 150 fpm with rear bottom lock open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
75	Flood OOS	Car is out of service on flood operation.	NA
76	Door Invalid	Necessary door inputs are not programmed, and the doors cannot function.	"Program the necessary door inputs.
77	MRA CPU Stop Sw	CPU stop switch is ON for the machine room board.	Turn off DIP A1 on the machine room board.
78	MRB CPU Stop Sw	CPU stop switch is ON for the machine room board.	Turn off DIP A1 on the machine room board.
79	CTA CPU Stop Sw	CPU stop switch is ON for the car top board.	Turn off DIP A1 on the car top board.
80	CTB CPU Stop Sw	CPU stop switch is ON for the car top board.	Turn off DIP A1 on the car top board.
81	COPA CPU Stop Sw	CPU stop switch is ON for the car operating panel board.	Turn off DIP A1 on the car operating panel board.
82	COPB CPU Stop Sw	CPU stop switch is ON for the car operating panel board.	Turn off DIP A1 on the car operating panel board.

83	Need To Cycle Pwr MR	A system configuration parameter was changed. The system must be power cycled.	Cycle power to the system.
84	Inv. Num Floors	Number of floors setting is outside the valid range.	Set number of floors to a value from 2 to 64.
85	Inv. Contract Spd	Contract speed setting is outside the valid range.	Set contract speed to a value from 10 to 1600.
86	Inv. Insp Spd	Inspection speed setting is outside the valid range.	Set inspection speed to a value from 0 to 150.
87	Inv. Learn Spd	Learn speed setting is outside the valid range.	Set learn speed to a value from 10 to contract speed.
88	Inv. Term Spd	Terminal speed setting is outside the valid range.	Set terminal speed to a value from 0 to 30.
89	Inv. Level Spd	Leveling speed setting is outside the valid range.	Set leveling speed to a value from 1 to 20.
90	Inv. NTSD Spd	NTS speed setting is outside the valid range.	Set NTS speed to a value from 1 to 20.
91	Need To Learn	Learned floor positions are invalid.	Set machine room DIP A5 and follow on screen instructions to learn floor positions.
92	Inv. ETS 1	Normal profile ETS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETS point recalculation.
93	Inv. ETS 2	Inspection profile ETS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETS point recalculation.
94	Inv. ETS 3	Emergency profile ETS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETS point recalculation.
95	Inv. ETS 4	Short profile ETS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETS point recalculation.
96	At Floor No DZ	Car is at a learned floor level but is missing the door zone signal.	Adjust the learned floor position or door zone magnet at the fault position.
97	Fire Stop Switch	Fire stop switch (COP-SF3) input is missing.	Check wiring and safety contacts.

98	Door F Jumper GSW	Gate switch jumper was detected. Gate switch input must go low to clear.	Remove jumper or increase the door jumper timeout setting.
99	Door F Jumper Lock	Lock jumper was detected. A lock input must go low to clear.	Remove jumper or increase the door jumper timeout setting.
100	Door F Locks Open	A lock was stuck open when closing doors.	NA
101	Door F GSW Open	Gate switch stuck open when closing doors.	NA
102	Door F Fail Open	Door failed to open.	NA
103	Door F Fail Close	Door failed to close.	NA
106	Door F Lost Signal	Door signals were unexpectedly lost.	NA
107	Door R Jumper GSW	Gate switch jumper was detected. Gate switch input must go low to clear.	Remove jumper or increase the door jumper timeout setting.
108	Door R Jumper Lock	Lock jumper was detected. A lock input must go low to clear.	Remove jumper or increase the door jumper timeout setting.
109	Door R Locks Open	A lock was stuck open when closing doors.	NA
110	Door R GSW Open	Gate switch stuck open when closing doors.	NA
111	Door R Fail Open	Door failed to open.	NA
112	Door R Fail Close	Door failed to close.	NA
115	Door R Lost Signal	Door signals were unexpectedly lost.	NA
116	Max Runtime	Car made a single run that exceeded the run time limit.	Adjust max runtime setting.
117	EB Byp	EB3 or EB4 bypass relay is stuck in the ON position.	NA
118	MRA Param OVF	Machine room processor A parameter edit buffer overflowed.	Reduce rate of parameter edit requests.
119	MRB Param OVF	Machine room processor B parameter edit buffer overflowed.	Reduce rate of parameter edit requests.
120	CTA Param OVF	Car top processor A parameter edit buffer overflowed.	Reduce rate of parameter edit requests.
121	CTB Param OVF	Car top processor B parameter edit buffer overflowed.	Reduce rate of parameter edit requests.
122	COPA Param OVF	Car operating panel processor A parameter edit buffer overflowed.	Reduce rate of parameter edit requests.
123	COPB Param OVF	Car operating panel processor B parameter edit buffer overflowed.	Reduce rate of parameter edit requests.

124	MRA Offline (CTA)	MR-A processor reported offline by CT-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
125	MRA Offline (COPA)	MR-A processor reported offline by COP-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
126	MRA Offline (MRB)	MR-A processor reported offline by MR-B processor.	Check wiring of communication lines. Check for stalled HB LEDs.
127	CTA Offline (MRA)	CT-A processor reported offline by MR-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
128	CTA Offline (COPA)	CT-A processor reported offline by COP-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
129	CTA Offline (CTB)	CT-A processor reported offline by CT-B processor.	Check wiring of communication lines. Check for stalled HB LEDs.
130	COPA Offline (MRA)	COP-A processor reported offline by MR-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
131	COPA Offline (CTA)	COP-A processor reported offline by CT-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
132	COPA Offline (COPB)	COP-A processor reported offline by COP-B processor.	Check wiring of communication lines. Check for stalled HB LEDs.
133	MRB Offline (MRA)	MR-B processor reported offline by MR-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
134	CTB Offline (CTA)	CT-B processor reported offline by CT-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
135	COPB Offline (COPA)	COP-B processor reported offline by COP-A processor.	Check wiring of communication lines. Check for stalled HB LEDs.
136	MRA Board Rst	Processor was reset, triggered by power loss or user reset.	NA
137	MRB Board Rst	Processor was reset, triggered by power loss or user reset.	NA
138	CTA Board Rst	Processor was reset, triggered by power loss or user reset.	NA
139	CTB Board Rst	Processor was reset, triggered by power loss or user reset.	NA
140	COPA Board Rst	Processor was reset, triggered by power loss or user reset.	NA
141	COPB Board Rst	Processor was reset, triggered by power loss or user reset.	NA
142	MRA WDT Rst	Processor was reset, triggered by watch dog.	NA
143	MRB WDT Rst	Processor was reset, triggered by watch dog.	NA
144	CTA WDT Rst	Processor was reset, triggered by watch dog.	NA
145	CTB WDT Rst	Processor was reset, triggered by watch dog.	NA
146	COPA WDT Rst	Processor was reset, triggered by watch dog.	NA

147	COPB WDT Rst	Processor was reset, triggered by watch dog.	NA
148	MRA BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
149	MRB BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
150	CTA BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
151	CTB BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
152	COPA BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
153	COPB BOD Rst	Processor was reset, triggered by dip in board voltage.	NA
154	SS SFH	Hoistway safety (MR-SFH) input missing.	Check wiring and safety contacts.
155	SS SFM	Machine room safety (MR-SFM) input missing.	Check wiring and safety contacts.
156	SS PIT	Pit (MR-PIT) input missing.	Check wiring and safety contacts.
157	SS BUF	Buffer (MR-BUF) input missing.	Check wiring and safety contacts.
158	SS TFL	Top final limit (MR-TFL) input missing.	Check wiring and safety contacts.
159	SS BFL	Bottom final limit (MR-BFL) input missing.	Check wiring and safety contacts.
160	SS CT Stop Sw	Car top switch (CT-SF1) input missing.	Check wiring and safety contacts.
161	SS Esc Hatch	Car top escape hatch (CT-SF2) input missing.	Check wiring and safety contacts.
162	SS Car Safeties	Car top car safeties (CT-SF3) input missing.	Check wiring and safety contacts.
163	LFT Open	Front top lock is open.	Check wiring and safety contacts.
164	LFM Open	Front middle lock is open.	Check wiring and safety contacts.
165	LFB Open	Front bottom lock is open.	Check wiring and safety contacts.
166	LRT Open	Rear top lock is open.	Check wiring and safety contacts.
167	LRM Open	Rear middle lock is open.	Check wiring and safety contacts.
168	LRB Open	Rear bottom lock is open.	Check wiring and safety contacts.
169	GSWF Open	Front gate switch is open.	Check wiring and safety contacts.

170	GSWR Open	Rear gate switch is open.	Check wiring and safety contacts.
171	FRAM Defaulting	New FRAM chip detected, and formatting is in progress.	NA
172	FRAM Timeout	FRAM read or write request was unsuccessful.	NA
173	FRAM Default Fail	Attempt to format FRAM chip has failed.	NA
174	120VAC Loss	Machine room 120 VAC supply is missing.	Check wiring and safety contacts.
175	Mo. Inv. Cmd	A motion control error has occurred.	NA
176	Mo. Prepare Run	Motion start sequence aborted due to unsafe door state.	Check door contacts.
178	Mo. Pick M	Motion start sequence aborted due to missing M contactor feedback.	NA
179	Mo. Speed Reg	Motion start sequence aborted due to missing serial drive control feedback.	NA
180	Mo. Pick B2	Motion start sequence aborted due to missing B2 contactor feedback.	NA
181	Mo. Lift Brake	Motion start sequence aborted due to missing BPS feedback.	Verify BPS wiring and inversion parameter.
182	Mo. Accel Delay	Requested run distance is too short (less than 0.25 inch).	Verify the car is not rolling back at the start of run.
183	Mo. Ramp To Zero	Motion stop sequence aborted after failing to ramp to zero speed.	NA
184	Mo. Hold Zero	Motion stop sequence aborted after failing to achieve encoder speed of or below 1 fpm.	NA
185	Mo. Check BPS	Motion stop sequence aborted after failing BPS check.	Verify BPS wiring and inversion parameter.
187	Mo. Drop M	Motion stop sequence aborted after failing to drop the M contactor.	NA
188	Mo. Preflight	Motion stop sequence aborted after failing to complete preflight.	NA
189	BPS Stuck Closed	Brake pick switch feedback indicates brake is stuck closed during a run.	Reset machine room board to clear. Check BPS wiring, NC and correct brake voltage settings.

190	BPS Stuck Open	Brake pick switch feedback indicates brake is stuck open while car is stopped.	Reset machine room board to clear. Check BPS wiring, NC and correct brake voltage settings.
191	EB2 Drop	Rope gripper relay EB2 was dropped.	NA
192	EB2 Stuck	EB2 relay is stuck.	Verify the relay is tightly seated on its connector.
193	Brake Offline	Brake board communication was lost. Reported by the main system.	Check CAN bus wiring and termination.
194	Brake Unk.	Brake board reporting an unknown state.	NA
195	Brake POR Rst	Brake board recovering from reset due to power loss.	NA
196	Brake WDT Rst	Brake board recovering from reset due to watch dog.	NA
197	Brake Comm Loss	Brake board reporting communication loss.	Check CAN bus wiring and termination.
198	Brake Gate Flt	Brake board reporting a gate driver fault.	Check wiring on brake board's high voltage connections.
199	Brake MOSFET	Brake board reporting MOSFET failure.	Check wiring on brake board's high voltage connections.
200	Brake Bus Rst	Brake board reporting CAN bus reset.	Check for short on the CAN bus.
201	Brake DIP	Brake board reporting DIP switch settings in conflict with another board.	Check system brake boards for identical DIP1 state.
202	Brake BOD Rst	Brake board recovering from reset due to voltage dip.	NA
203	Brake AC Loss	Brake board does not detect an AC voltage source. Only valid on 20A brake boards.	Check that the board has a valid AC power source.
204	EBrake Offline	Brake board communication was lost. Reported by the main system.	Check CAN bus wiring and termination.
205	EBrake Unk.	Brake board reporting an unknown state.	NA
206	EBrake POR Rst	Brake board recovering from reset due to power loss.	NA
207	EBrake WDT Rst	Brake board recovering from reset due to watch dog.	NA
208	EBrake Comm Loss	Brake board reporting communication loss.	Check CAN bus for correct wiring and termination.
209	EBrake Gate Flt	Brake board reporting a gate driver fault.	Check wiring on brake board's high voltage connections.

210	EBrake MOSFET	Brake board reporting MOSFET failure.	Check wiring on brake board's high voltage connections.
211	EBrake Bus Rst	Brake board reporting CAN bus reset.	Check for short on the CAN bus.
212	EBrake DIP	Brake board reporting DIP switch settings in conflict with another board.	Check system brake boards for identical DIP1 state.
213	EBrake BOD Rst	Brake board recovering from reset due to voltage dip.	NA
214	EBrake AC Loss	Brake board does not detect an AC voltage source. Only valid on 20A brake boards.	Check that the board has a valid AC power source.
215	CPLD Startup	CPLD reporting a startup state.	NA
216	CPLD Unint Mov	CPLD reporting unintended movement.	Press the EBRK RST button to clear.
217	CPLD Governor	CPLD reporting a governor fault.	Press the EBRK RST button to clear.
218	CPLD Redundancy	CPLD reporting a redundancy fault.	NA
219	CPLD Comm Loss	CPLD reporting loss of CN2 network communication.	Check for miswiring on the CN2 network. Check CT/COP toggle switch.
220	CPLD Non Bypass	CPLD reporting loss of a no bypass input.	Check machine room and car top safety inputs.
221	CPLD In Car	CPLD reporting loss of in car stop input.	Check COP SF2 input.
222	CPLD Insp.	CPLD reporting invalid inspection mode.	An invalid set of inspection switches are active.
223	CPLD SFH	CPLD reporting loss of SFH input.	Check machine room SFH input.
225	CPLD Access	CPLD reporting invalid access switch and lock combination.	NA
226	CPLD Locks	CPLD reporting lock open.	NA
227	CPLD Doors	CPLD reporting gate switch open.	NA
228	CPLD Bypass Sw	CPLD reporting a bypass switch is active.	NA
229	CPLD Preflight	CPLD reporting preflight failure.	NA
234	DZ Stuck Hi	Door zone stuck high and over six inches from the closest learned floor position.	Check DZ input wiring (CT-503/504). Check for obstruction of the DZ sensor.
235	Position Limit	Car moving outside the mode defined position limit.	Option to bypass term limits is available.
236	Inv. Manual Run	Attempting a manual run outside specified the current position limits.	Option to bypass term limits is available.

237	Inv. Accel Curve	Requested acceleration curve is invalid.	Increase current Digital S-curve Technology ™ (U.S. Patent Pending) acceleration rate parameters.
238	Inv. Decel Curve	Requested deceleration curve is invalid.	Increase current Digital S-curve Technology ™ (U.S. Patent Pending) deceleration rate parameters.
239	Inv. Added Curve	Requested mid run acceleration curve is invalid.	Increase current Digital S-curve Technology ™ (U.S. Patent Pending) acceleration rate parameters.
240	Inv. RSL Curve	Requested mid run deceleration curve is invalid.	Increase current Digital S-curve Technology ™ (U.S. Patent Pending) deceleration rate parameters.
241	Inv. Profile 1	Normal profile Digital S-curve Technology ™ (U.S. Patent Pending) settings are invalid.	Increase the profile's acceleration or deceleration rate parameters.
242	Inv. Profile 2	Inspection profile Digital S-curve Technology ™ (U.S. Patent Pending) settings are invalid.	Increase the profile's acceleration or deceleration rate parameters.
243	Inv. Profile 3	E-Power profile Digital S-curve Technology ™ (U.S. Patent Pending) settings are invalid.	Increase the profile's acceleration or deceleration rate parameters.
244	Inv. Profile 4	Short profile Digital S-curve Technology ™ (U.S. Patent Pending) settings are invalid.	Increase the profile's acceleration or deceleration rate parameters.
245	SFM Stuck	SFM relay is stuck.	Verify the relay is tightly seated on its connector.
246	Car Overloaded	Car is overloaded.	Remove weight from the car.
247	MR Preflight	Preflight test failed.	NA
248	CT Preflight	Preflight test failed.	NA
249	COP Preflight	Preflight test failed.	NA
250	MRB Param Sync	Parameters are synchronizing.	NA
251	CTA Param Sync	Parameters are synchronizing.	NA
252	CTB Param Sync	Parameters are synchronizing.	NA
253	Digital S-curve Technology ™ (U.S. Patent Pending) Update	Motion parameters are being recalculated.	NA
254	Regen Fault	Regen unit reporting a fault state.	Check regen status and the regen fault input wiring.
255	Constr. OVSP	The encoder speed has exceeded the speed command by over 25 fpm.	Option to disable this fault is available via 01-0073.

256	EBPS Stuck Closed	Emergency brake pick switch feedback indicates emergency brake is stuck closed during a run.	Check BPS wiring, NC and correct brake voltage settings.
257	EBPS Stuck Open	Emergency brake pick switch feedback indicates emergency brake is stuck open while car is stopped.	Check BPS wiring, NC and correct brake voltage settings.
258	Inv. DIP B2	Rear door DIP switch and parameter do not match.	Match DIP and parameter setting.
259	Inv. DIP B3	Enable landing inspection DIP switch and parameter do not match.	Match DIP and parameter setting.
260	Inv. DIP B4	Enable pit inspection DIP switch and parameter do not match.	Match DIP and parameter setting.
261	Inv. DIP B8	DIP B8 is on while not performing the unintended movement acceptance test.	Move to unintended movement acceptance test or clear DIP B8.
262	Inv. DIP A6	Construction mode is required when the motor learn DIP switch is ON.	Move to construction mode or clear DIP A6.
263	CT Insp Reqs IC Insp	Both IC and CT inspection switches are required for CT inspection operation.	Assert both IC and CT inspection switches. Optionally turn off this parameter enabled option.
264	Speed Reg Hi	Drive's serial speed reg signal is stuck high when it should be commanded low.	Check drive's speed reg settings for correct serial mapping.
265	B Cont. Hi HW	B contactor feedback is stuck high.	Check the wiring to and from the B contactor.
266	Speed Reg Lo	Drive's serial speed reg signal is stuck low when should be commanded high.	Check drive's speed reg settings for correct serial mapping.
267	B Cont. Lo HW	B contactor feedback is stuck low.	Check the wiring to and from the B contactor.
269	EXP 1-8 Comm	Communication loss between system and master or master and slave expansions	Check expansion 1-8 CAN bus wiring
270	EXP 9-16 Comm	Communication loss between system and master or master and slave expansions	Check expansion 9-16 CAN bus wiring
271	EXP 17-24 Comm	Communication loss between system and master or master and slave expansions	Check expansion 17-24 CAN bus wiring
272	EXP 25-32 Comm	Communication loss between system and master or master and slave expansions	Check expansion 25-32 CAN bus wiring

273	EXP 33-40 Comm	Communication loss between system and master or master and slave expansions	Check expansion 33-40 CAN bus wiring
274	EXP 41-48 Comm	Communication loss between system and master or master and slave expansions	Check expansion 41-48 CAN bus wiring
275	EXP 49-56 Comm	Communication loss between system and master or master and slave expansions	Check expansion 49-56 CAN bus wiring
276	EXP 57-64 Comm	Communication loss between system and master or master and slave expansions	Check expansion 57-64 CAN bus wiring
277	EXP 65-72 Comm	Communication loss between system and master or master and slave expansions	Check expansion 65-72 CAN bus wiring
278	EXP 73-80 Comm	Communication loss between system and master or master and slave expansions	Check expansion 73-80 CAN bus wiring
279	EXP 81-88 Comm	Communication loss between system and master or master and slave expansions	Check expansion 81-88 CAN bus wiring
280	EXP 89-96 Comm	Communication loss between system and master or master and slave expansions	Check expansion 89-96 CAN bus wiring
281	EXP 97-104 Comm	Communication loss between system and master or master and slave expansions	Check expansion 97-104 CAN bus wiring
282	EXP 105-112 Comm	Communication loss between system and master or master and slave expansions	Check expansion 105-112 CAN bus wiring
283	EXP 113-120 Comm	Communication loss between system and master or master and slave expansions	Check expansion 113-120 CAN bus wiring
284	EXP DIP 1	Two or more expansion boards have the same master DIP switch 1 settings.	Check if two or more master expansions have master 1 dip settings
285	EXP DIP 2	Two or more expansion boards have the same master DIP switch 2 settings.	Check if two or more master expansions have master 2 dip settings
286	EXP DIP 3	Two or more expansion boards have the same master DIP switch 3 settings.	Check if two or more master expansions have master 3 dip settings
287	EXP DIP 4	Two or more expansion boards have the same master DIP switch 4 settings.	Check if two or more master expansions have master 4 dip settings

288	EXP DIP 5	Two or more expansion boards have the same master DIP switch 5 settings.	Check if two or more master expansions have master 5 dip settings
289	EXP DIP 6	Two or more expansion boards have the same master DIP switch 6 settings.	Check if two or more master expansions have master 6 dip settings
290	EXP DIP 7	Two or more expansion boards have the same master DIP switch 7 settings.	Check if two or more master expansions have master 7 dip settings
291	EXP DIP 8	Two or more expansion boards have the same master DIP switch 8 settings.	Check if two or more master expansions have master 8 dip settings
292	EXP DIP 9	Two or more expansion boards have the same master DIP switch 9 settings.	Check if two or more master expansions have master 9 dip settings
293	EXP DIP 10	Two or more expansion boards have the same master DIP switch 10 settings.	Check if two or more master expansions have master 10 dip settings
294	EXP DIP 11	Two or more expansion boards have the same master DIP switch 11 settings.	Check if two or more master expansions have master 11 dip settings
295	EXP DIP 12	Two or more expansion boards have the same master DIP switch 12 settings.	Check if two or more master expansions have master 12 dip settings
296	EXP DIP 13	Two or more expansion boards have the same master DIP switch 13 settings.	Check if two or more master expansions have master 13 dip settings
297	EXP DIP 14	Two or more expansion boards have the same master DIP switch 14 settings.	Check if two or more master expansions have master 14 dip settings
298	EXP DIP 15	Two or more expansion boards have the same master DIP switch 15 settings.	Check if two or more master expansions have master 15 dip settings
299	Inv. Hall Mask	There is overlap between the hall call, medical, and swing masks.	NA
300	OOS Fault	Car has been taken out of service. Triggering source is undefined.	Clear OOS by moving to inspection mode.
301	Inv. Group ID	Two or more group cars have the same car ID.	NA
302	Rescue Start	After moving to rescue operation, the car waits a minimum of 2 seconds before beginning rescue.	NA

303	Rescue In DZ	The car has arrived at the nearest opening, opened its doors, and gone out of service.	NA
304	Rescue Invalid	Auto: No valid recall floor was found. Manual: Invalid run state.	Turn off automatic rescue and perform a manual rescue.
305	MR Safety	Machine room safety input (SFM) was lost.	Check wiring and safety contacts.
306	CEDES1 Offline	Communication with CEDES channel 1 was lost.	Check camera wiring.
307	CEDES1 Read	CEDES channel 1 reporting a failure to read error.	Clean the tape. Align the tape with the camera.
308	CEDES1 Close	CEDES channel 1 reporting the tape is aligned too close relative to the camera.	Clean the tape. Align the tape with the camera.
309	CEDES1 Far	CEDES channel 1 reporting the tape is aligned too far relative to the camera.	Clean the tape. Align the tape with the camera.
310	CEDES1 Left	CEDES channel 1 reporting the tape is aligned too left relative to the camera.	Clean the tape. Align the tape with the camera.
311	CEDES1 Right	CEDES channel 1 reporting the tape is aligned too right relative to the camera.	Clean the tape. Align the tape with the camera.
312	CEDES1 Internal	CEDES channel 1 reporting an internal error.	NA
313	CEDES1 Comm.	CEDES channel 1 reporting a communication error.	NA
314	CEDES1 X1 Pos	CEDES channel 1 reporting a position cross check error.	NA
315	CEDES1 X1 Vel	CEDES channel 1 reporting a velocity cross check error.	NA
316	CEDES1 X1 Both	CEDES channel 1 reporting a cross check error.	NA
317	CEDES1 X2 Pos	CEDES channel 1 reporting a position cross check error.	NA
318	CEDES1 X2 Vel	CEDES channel 1 reporting a velocity cross check error.	NA
319	CEDES1 X2 Both	CEDES channel 1 reporting a cross check error.	NA
320	CEDES2 Offline	Communication with CEDES channel 2 was lost.	Check camera wiring.
321	CEDES2 Read	CEDES channel 2 reporting a failure to read error.	Clean the tape. Align the tape with the camera.

322	CEDES2 Close	CEDES channel 2 reporting the tape is aligned too close relative to the camera.	Clean the tape. Align the tape with the camera.
323	CEDES2 Far	CEDES channel 2 reporting the tape is aligned too far relative to the camera.	Clean the tape. Align the tape with the camera.
324	CEDES2 Left	CEDES channel 2 reporting the tape is aligned too left relative to the camera.	Clean the tape. Align the tape with the camera.
325	CEDES2 Right	CEDES channel 2 reporting the tape is aligned too right relative to the camera.	Clean the tape. Align the tape with the camera.
326	CEDES2 Internal	CEDES channel 2 reporting an internal error.	NA
327	CEDES2 Comm.	CEDES channel 2 reporting a communication error.	NA
328	CEDES2 X1 Pos	CEDES channel 2 reporting a position cross check error.	NA
329	CEDES2 X1 Vel	CEDES channel 2 reporting a velocity cross check error.	NA
330	CEDES2 X1 Both	CEDES channel 2 reporting a cross check error.	NA
331	CEDES2 X2 Pos	CEDES channel 2 reporting a position cross check error.	NA
332	CEDES2 X2 Vel	CEDES channel 2 reporting a velocity cross check error.	NA
333	CEDES2 X2 Both	CEDES channel 2 reporting a cross check error.	NA
334	E-Power OOS	Car is on emergency power and not configured to return to automatic operation.	NA
335	Inv. Parking	Parking floor is set to a landing with no openings.	NA
336	Inv. Fire Main	Main fire recall floor and opening are invalid.	NA
337	Inv. Fire Alt	Alternate fire recall floor and opening are invalid.	NA
338	MR CPLD Offline	Communication with machine room CPLD lost.	NA
339	CT CPLD Offline	Communication with car top CPLD lost.	NA
340	COP CPLD Offline	Communication with car operating panel CPLD lost.	NA
341	DG Expired	Car network datagram expired.	NA

342	Drive Offline	Communication with drive was lost.	Check the wiring of the communication lines between the machine room and drive.
343	DSD Not Rdy	A drive fault exists. Drive is not ready.	Refer to the DSD drive manual.
344	DSD OVSP	Drive issuing a tach overspeed fault (see DSD manual F97).	Refer to the DSD drive manual.
345	DSD Tach Loss	Drive issuing a tach loss fault (see DSD manual F98).	Refer to the DSD drive manual.
346	DSD Tach Rev	Drive issuing a reverse tach fault (see DSD manual F99).	Refer to the DSD drive manual.
347	DSD Overload	Drive issuing a motor over-load fault (see DSD manual F400).	Refer to the DSD drive manual.
348	DSD Field Curr	Drive issuing an excessive field current fault (see DSD manual F401).	Refer to the DSD drive manual.
349	DSD Contact.	Drive issuing a contactor failure fault (see DSD manual F402).	Refer to the DSD drive manual.
350	DSD CEMF	Drive issuing a CEMF limit fault (see DSD manual F407/F408).	Refer to the DSD drive manual.
351	DSD Estop	Drive issuing an E-Stop circuit fault (see DSD manual).	Refer to the DSD drive manual.
352	DSD Loop	Drive issuing a loop fault (see DSD manual F900).	Refer to the DSD drive manual.
353	DSD PCU	Drive issuing a PCU IST fault (see DSD manual F901).	Refer to the DSD drive manual.
354	DSD Line Sync	Drive issuing a line sync fault (see DSD manual F903).	Refer to the DSD drive manual.
355	DSD Line Lo	Drive issuing a low line fault (see DSD manual F904).	Refer to the DSD drive manual.
356	DSD Field Loss	Drive issuing a field loss fault (see DSD manual F905).	Refer to the DSD drive manual.
357	DSD Line Droop	Drive issuing a line droop fault (see DSD manual F406).	Refer to the DSD drive manual.
358	DSD Comm.	Drive reporting a communcation loss fault (see DSD manual).	Check the wiring of the communication lines between the machine room and drive.
359	DRV OVERVOLT FLT	Drive reporting an overvolt fault.	Refer to the HPV drive manual.
360	DRV UNDERVOLT FLT	Drive reporting an undervolt fault.	Refer to the HPV drive manual.
361	DRV OVERCURR FLT	Drive reporting an overcurrent fault.	Refer to the HPV drive manual.
362	DRV FUSE FLT	Drive reporting a fuse fault.	Refer to the HPV drive manual.
363	DRV REVERSE TACH	Drive reporting reverse tach fault.	Refer to the HPV drive manual.

364	DRV PHASE LOSS	Drive reporting a phase loss fault.	Refer to the HPV drive manual.
365	DRV CURR REG FLT	Drive reporting a current regulator fault.	Refer to the HPV drive manual.
366	DRV OVERSPEED FLT	Drive reporting an overspeed fault.	Refer to the HPV drive manual.
367	DRV CHARGE FLT	Drive reporting a charge fault.	Refer to the HPV drive manual.
368	DRV DRIVE OVRLOAD	Drive reporting a drive overload fault.	Refer to the HPV drive manual.
369	DRV OVERTEMP FLT	Drive reporting an overtemperature fault.	Refer to the HPV drive manual.
370	DRV ENCODER FLT	Drive reporting an encoder fault.	Refer to the HPV drive manual.
371	DRV GROUND FLT	Drive reporting a ground fault.	Refer to the HPV drive manual.
372	DRV CONTACTOR FLT	Drive reporting a contactor fault.	Refer to the HPV drive manual.
373	DRV BRK PICK FLT	Drive reporting a brake pick fault.	Refer to the HPV drive manual.
374	DRV BRK HOLD FLT	Drive reporting a brake hold fault.	Refer to the HPV drive manual.
375	DRV EXTRN FLT 1	Drive reporting an external fault 1.	Refer to the HPV drive manual.
376	DRV EXTRN FLT 2	Drive reporting an external fault 2.	Refer to the HPV drive manual.
377	DRV EXTRN FLT 3	Drive reporting an external fault 3.	Refer to the HPV drive manual.
378	DRV BRAKE FLT	Drive reporting a brake fualt.	Refer to the HPV drive manual.
379	DRV CUBE ID FLT	Drive reporting a cube ID fault.	Refer to the HPV drive manual.
380	DRV MOTOR ID FLT	Drive reporting a motor ID fault.	Refer to the HPV drive manual.
381	MAG23	Drive reporting an undefined MAG 23 fault.	Refer to the HPV drive manual.
382	DRV SETUP FLT 1	Drive reporting a setup fault 1.	Refer to the HPV drive manual.
383	DRV SETUP FLT 2	Drive reporting a setup fault 2.	Refer to the HPV drive manual.
384	DRV SETUP FLT 3	Drive reporting a setup fault 3.	Refer to the HPV drive manual.
385	DRV SETUP FLT 4	Drive reporting a setup fault 4.	Refer to the HPV drive manual.
386	DRV SETUP FLT 5	Drive reporting a setup fault 5.	Refer to the HPV drive manual.
387	DRV DCU DATA FLT	Drive reporting a DCU data fault.	Refer to the HPV drive manual.
388	DRV PCU DATA FLT	Drive reporting a PCU data fault.	Refer to the HPV drive manual.
389	DRV CUBE DATA FLT	Drive reporting a cube data fault.	Refer to the HPV drive manual.
390	DRV MTR DATA FLT	Drive reporting a motor data fault.	Refer to the HPV drive manual.

391	DRV SRL TIMEOUT	Drive reporting a serial comm timeout.	Refer to the HPV drive manual.
392	DRV SETUP FLT 6	Drive reporting a setup fault 6.	Refer to the HPV drive manual.
393	DRV SETUP FLT 7	Drive reporting a setup fault 7.	Refer to the HPV drive manual.
394	DRV TQLim2Hi4Cube	Drive reporting a torque limit fault.	Refer to the HPV drive manual.
395	DRV SETUP FLT 8	Drive reporting a setup fault 8.	Refer to the HPV drive manual.
396	DRV V/HZ FLT	Drive reporting a V/HZ fault.	Refer to the HPV drive manual.
397	MAG39	Drive reporting an undefined MAG 39 fault.	Refer to the HPV drive manual.
398	DRV EXTRN FLT 4	Drive reporting an external fault 4.	Refer to the HPV drive manual.
399	MAG41	Drive reporting an undefined MAG 41 fault.	Refer to the HPV drive manual.
400	MAG42	Drive reporting an undefined MAG 42 fault.	Refer to the HPV drive manual.
401	DRV RTR NOT ALIGN	Drive reporting rotor not aligned.	Refer to the HPV drive manual.
402	DRV ENCDR CRC ERR	Drive reporting encoder CRC error.	Refer to the HPV drive manual.
403	MAG45	Drive reporting an undefined MAG 45 fault.	Refer to the HPV drive manual.
404	DRV MOTOR PHASE FLT	Drive reporting a motor phase fault.	Refer to the HPV drive manual.
405	DRV Z MARKER LOST	Drive reporting a Z marker lost fault.	Refer to the HPV drive manual.
406	DRV STALL FLT	Drive reporting a stall fault.	Refer to the HPV drive manual.
407	MAG49	Drive reporting an undefined MAG 49 fault.	Refer to the HPV drive manual.
408	MAG50	Drive reporting an undefined MAG 50 fault.	Refer to the HPV drive manual.
409	DRV ENDAT MISMATCH	Drive reporting ENDAT mismatch.	Refer to the HPV drive manual.
410	DRV DB VOLT	Drive reporting DB voltage fault.	Refer to the HPV drive manual.
411	DRV MSPD TIMER FLT	Drive reporting a multi-step speed delay fault.	Refer to the HPV drive manual.
412	DRV SHORT CIRCUIT	Drive reporting a short circuit fault.	Refer to the HPV drive manual.
413	DRV SER2 SPD FLT	Drive reporting a SER2 speed fault.	Refer to the HPV drive manual.
414	DRV MOTOR OVRLOAD	Drive reporting a motor overload fault.	Refer to the HPV drive manual.
415	DRV SPD DEV FLT	Drive reporting a speed deviation fault.	Refer to the HPV drive manual.
416	DRV SETUP FLT 9	Drive reporting a setup fault 9.	Refer to the HPV drive manual.

417	DRV SETUP FLT 10	Drive reporting a setup fault 10.	Refer to the HPV drive manual.
418	DRV BRK OPEN FLT	Drive reporting a brake open fault.	Refer to the HPV drive manual.
419	DRV AT CONT FLT	Drive reporting an auto tune contactor fault.	Refer to the HPV drive manual.
420	MAG62	Drive reporting an undefined MAG 62 fault.	Refer to the HPV drive manual.
421	DRV SAFE-OFF OPEN	Drive reporting a safe-off open fault.	Refer to the HPV drive manual.
422	DRV SETUP FLT 11	Drive reporting a setup fault 11.	Refer to the HPV drive manual.
423	DRV QUICKSTART FLT	Drive reporting a quick start fault.	Refer to the HPV drive manual.
424	DRV TACH LOSS	Drive reporting a tach loss fault.	Refer to the HPV drive manual.
425	DRV SETUP FLT 12	Drive reporting a setup fault 12.	Refer to the HPV drive manual.
426	DRV SAFE-OFF SETUP	Drive reporting a safe-off setup fault.	Refer to the HPV drive manual.
427	DRV NTSD SPEED SETUP	Drive reporting an NTSD speed setup fault.	Refer to the HPV drive manual.
428	DRV NTSD LI SETUP	Drive reporting an NTSD logical input setup fault.	Refer to the HPV drive manual.
429	MAG71	Drive reporting an undefined MAG 71 fault.	Refer to the HPV drive manual.
430	DRV Encdr PPR FLT	Drive reporting an encoder PPR fault.	Refer to the HPV drive manual.
431	KEB1-OVER VOLT	Drive reporting EOP - Error Over Voltage.	Refer to the KEB drive manual.
432	KEB2-UNDER VOLT	Drive reporting EUP - Error Under Voltage.	Refer to the KEB drive manual.
433	KEB3-INPUT PH. FAIL	Drive reporting EUPh - Error Input Phase Failure.	Refer to the KEB drive manual.
434	KEB4-OVER CURRENT	Drive reporting EOC - Error Over Current.	Refer to the KEB drive manual.
435	KEB5-OUTPUT PH. FAIL	Drive reporting EIPh - Error Output Phase Failure.	Refer to the KEB drive manual.
436	KEB6-OVHT INT	Drive reporting EOHI - Error Overheat Internal.	Refer to the KEB drive manual.
437	KEB7-NO OVHT INT	Drive reporting EnOHI - No Error Overheat Internal.	Refer to the KEB drive manual.
438	KEB8-OVHT PWR MOD	Drive reporting EOH - Error Overheat Power Module.	Refer to the KEB drive manual.
439	KEB9-MTR OVHT	Drive reporting EdOH - Error Motor Overheat.	Refer to the KEB drive manual.

440	KEB10	Drive reporting an undefined KEB10 status.	Refer to the KEB drive manual.
441	KEB11-NO MTR OVHT	Drive reporting EndOH - No Error Motor Overheat.	Refer to the KEB drive manual.
442	KEB12-POWER UNIT	Drive reporting EPU - Error Power Unit.	Refer to the KEB drive manual.
443	KEB13-POW NOT RDY	Drive reporting no_PU - Power Unit Not Ready.	Refer to the KEB drive manual.
444	KEB14	Drive reporting an undefined KEB14 status.	Refer to the KEB drive manual.
445	KEB15-CHARGE RELAY	Drive reporting ELSF - Error Charge Relay Fault.	Refer to the KEB drive manual.
446	KEB16-OVERLOAD	Drive reporting EOL - Error Overload.	Refer to the KEB drive manual.
447	KEB17-NO OVERLOAD	Drive reporting EnOL - No Error Overload.	Refer to the KEB drive manual.
448	KEB18-HSP5 SER COM	Drive reporting EbuS - HSP5 Serial Comm.	Refer to the KEB drive manual.
449	KEB19-OVLD LOW SPD	Drive reporting EOL2 - Error Overload Low Speed.	Refer to the KEB drive manual.
450	KEB20-NO OVLD LOW SP	Drive reporting EnOL2 - No Error Overload Low Speed.	Refer to the KEB drive manual.
451	KEB21	Drive reporting an undefined KEB21 status.	Refer to the KEB drive manual.
452	KEB22	Drive reporting an undefined KEB22 status.	Refer to the KEB drive manual.
453	KEB23-BUS SYNC	Drive reporting ESbuS - Error Bus Synchronization.	Refer to the KEB drive manual.
454	KEB24-MAX ACCEL	Drive reporting EACC - Error Maximum Acceleration.	Refer to the KEB drive manual.
455	KEB25-SPD.CTRL LIM	Drive reporting ESCL - Error Speed Control Limit.	Refer to the KEB drive manual.
456	KEB26	Drive reporting an undefined KEB26 status.	Refer to the KEB drive manual.
457	KEB27	Drive reporting an undefined KEB27 status.	Refer to the KEB drive manual.
458	KEB28	Drive reporting an undefined KEB28 status.	Refer to the KEB drive manual.
459	KEB29	Drive reporting an undefined KEB29 status.	Refer to the KEB drive manual.
460	KEB30-MTR PROTECT	Drive reporting EOH2 - Error Motor Protection.	Refer to the KEB drive manual.
461	KEB31-EXTERNAL FLT	Drive reporting EEF - Error External Fault.	Refer to the KEB drive manual.
462	KEB32-ENCODER 1	Drive reporting EEnC1 - Error Encoder 1.	Refer to the KEB drive manual.

463	KEB33	Drive reporting an undefined KEB33 status.	Refer to the KEB drive manual.
464	KEB34-ENCODER 2	Drive reporting EEnC2 - Error Encoder 2.	Refer to the KEB drive manual.
465	KEB35-ENCODER	Drive reporting EEnCC - Error Encoder Interface.	Refer to the KEB drive manual.
466	KEB36-NO OVHT POWMOD	Drive reporting EnOH - No Error Overheat Power Module.	Refer to the KEB drive manual.
467	KEB37	Drive reporting an undefined KEB37 status.	Refer to the KEB drive manual.
468	KEB38	Drive reporting an undefined KEB38 status.	Refer to the KEB drive manual.
469	KEB39-ERROR SET	Drive reporting ESEt - Error Set.	Refer to the KEB drive manual.
470	KEB40	Drive reporting an undefined KEB40 status.	Refer to the KEB drive manual.
471	KEB41	Drive reporting an undefined KEB41 status.	Refer to the KEB drive manual.
472	KEB42	Drive reporting an undefined KEB42 status.	Refer to the KEB drive manual.
473	KEB43	Drive reporting an undefined KEB43 status.	Refer to the KEB drive manual.
474	KEB44-SF LIM F	Drive reporting ESLF - Error Software Limit Forward.	Refer to the KEB drive manual.
475	KEB45-SF LIM R	Drive reporting ESLr - Error Software Limit Reverse.	Refer to the KEB drive manual.
476	KEB46-PROT ROTATE F	Drive reporting EPrF - Error Protection Rotation Forward.	Refer to the KEB drive manual.
477	KEB47-PROT ROTATE R	Drive reporting EPrr - Error Protection Rotation Reverse.	Refer to the KEB drive manual.
478	KEB48	Drive reporting an undefined KEB48 status.	Refer to the KEB drive manual.
479	KEB49-PWRCODE INV	Drive reporting EPuci - Error Power Unit Code Invalid.	Refer to the KEB drive manual.
480	KEB50-PWRUNIT CHNG	Drive reporting EPuch - Power Unit Changed.	Refer to the KEB drive manual.
481	KEB51-DRIVER RELAY	Drive reporting Edri - Error Driver Relay.	Refer to the KEB drive manual.
482	KEB52-ENCODER CARD	Drive reporting EHyb - Error Encoder Card.	Refer to the KEB drive manual.
483	KEB53-IN ERR DETECT	Drive reporting EiEd - Input Error Detection.	Refer to the KEB drive manual.
484	KEB54-CNTR OVERRUN1	Drive reporting Eco1 - Error Counter Overrun 1.	Refer to the KEB drive manual.
485	KEB55-CNTR OVERRUN2	Drive reporting Eco2 - Error Counter Overrun 2.	Refer to the KEB drive manual.

486	KEB56-LOW MTR CUR	Drive reporting Ebr - Error Low Motor Current.	Refer to the KEB drive manual.
487	KEB57-INIT MFC	Drive reporting Eini - Error Initialization MFC.	Refer to the KEB drive manual.
488	KEB58-OVERSPEED	Drive reporting EOS - Error Overspeed.	Refer to the KEB drive manual.
489	KEB59-CARD CHANGE	Drive reporting EHybC - Error Encoder Card Changed.	Refer to the KEB drive manual.
490	KEB60-CALC MTRDATA	Drive reporting ECdd - Error Calculating Motor Data.	Refer to the KEB drive manual.
491	KEB61	Drive reporting an undefined KEB61 status.	Refer to the KEB drive manual.
492	KEB62	Drive reporting an undefined KEB62 status.	Refer to the KEB drive manual.
493	KEB63	Drive reporting an undefined KEB63 status.	Refer to the KEB drive manual.
494	KEB64-UP ACCEL	Drive reporting Up Acceleration.	Refer to the KEB drive manual.
495	KEB65-UP DECEL	Drive reporting Up Deceleration.	Refer to the KEB drive manual.
496	KEB66-UP CSNT SPD	Drive reporting Up Constant Speed.	Refer to the KEB drive manual.
497	KEB67-DN ACCEL	Drive reporting Down Acceleration.	Refer to the KEB drive manual.
498	KEB68-DN DECEL	Drive reporting Down Deceleration.	Refer to the KEB drive manual.
499	KEB69-DN CST SPD	Drive reporting Down Constant Speed.	Refer to the KEB drive manual.
500	KEB70-NO DIRECTION	Drive reporting No Direction Selected.	Refer to the KEB drive manual.
501	KEB71-STALL	Drive reporting Stall.	Refer to the KEB drive manual.
502	KEB72-LA STOP	Drive reporting LA Stop.	Refer to the KEB drive manual.
503	KEB73-LD STOP	Drive reporting Ld Stop.	Refer to the KEB drive manual.
504	KEB74-SPD SRCH	Drive reporting Speed Search.	Refer to the KEB drive manual.
505	KEB75-DC BRAKE	Drive reporting DC Brake.	Refer to the KEB drive manual.
506	KEB76-BASE BLCK	Drive reporting Base Block.	Refer to the KEB drive manual.
507	KEB77-LOW SPD	Drive reporting Low Speed / DC Brake.	Refer to the KEB drive manual.
508	KEB78-PWR OFF	Drive reporting Power Off.	Refer to the KEB drive manual.
509	KEB79-QUICK STOP	Drive reporting Quick Stop.	Refer to the KEB drive manual.
510	KEB80-HW CUR LIMIT	Drive reporting Hardware Current Limit.	Refer to the KEB drive manual.
511	KEB81-ACTIVE REF	Drive reporting Search for Reference Active.	Refer to the KEB drive manual.
512	KEB82-CALC MTRDATA	Drive reporting Calculate Motor Data.	Refer to the KEB drive manual.

513	KEB83-POSITIONING	Drive reporting Positioning.	Refer to the KEB drive manual.
514	KEB84-LOW SPD/POW	Drive reporting Low Speed / Power Off.	Refer to the KEB drive manual.
515	KEB85-CLOSING BRK	Drive reporting Closing Brake.	Refer to the KEB drive manual.
516	KEB86-OPENING BRK	Drive reporting Opening Brake.	Refer to the KEB drive manual.
517	KEB87-STOP OVHEAT	Drive reporting Abnormal Stop Overheat Interior.	Refer to the KEB drive manual.
518	KEB88-NO OVHT POW	Drive reporting No Alarm Overheat Power Module.	Refer to the KEB drive manual.
519	KEB89-STOP OVHT POW	Drive reporting Abnormal Stop Overheat Power Module.	Refer to the KEB drive manual.
520	KEB90-STOP EXT FLT	Drive reporting Abnormal Stop External Fault.	Refer to the KEB drive manual.
521	KEB91-NO DRV OVH	Drive reporting No Alarm Drive Overheat.	Refer to the KEB drive manual.
522	KEB92-NO STP OVH IN	Drive reporting No Alarm Stop Overheat Interior.	Refer to the KEB drive manual.
523	KEB93-STOP BUS	Drive reporting Abnormal Stop Bus.	Refer to the KEB drive manual.
524	KEB94-STOP PROT F	Drive reporting Abnormal Stop Protection Rotation Forward.	Refer to the KEB drive manual.
525	KEB95-STOP PROT R	Drive reporting Abnormal Stop Protection Rotation Reverse.	Refer to the KEB drive manual.
526	KEB96-STOP DRVE OVH	Drive reporting Abnormal Stop Drive Overheat.	Refer to the KEB drive manual.
527	KEB97-STOP MTR PRCT	Drive reporting Abnormal Stop Motor Protection.	Refer to the KEB drive manual.
528	KEB98-NO STEP OL	Drive reporting No Abnormal Stop Overload.	Refer to the KEB drive manual.
529	KEB99-STOP OVL	Drive reporting Abnormal Stop Overload.	Refer to the KEB drive manual.
530	KEB100-STOP OVL2	Drive reporting Abnormal Stop Overload 2.	Refer to the KEB drive manual.
531	KEB101- NO STOP OVL2	Drive reporting No Abnormal Stop Overload 2.	Refer to the KEB drive manual.
532	KEB102-STOP SET	Drive reporting Abnormal Stop Set.	Refer to the KEB drive manual.
533	KEB103-STOP BUS SYNC	Drive reporting Abnormal Stop Bus Synchronization.	Refer to the KEB drive manual.
534	KEB104-SF LIM FWD	Drive reporting Abnormal Stop Software Limit Forward.	Refer to the KEB drive manual.
535	KEB105-SF LIM RVSE	Drive reporting Abnormal Stop Software Limit Reverse.	Refer to the KEB drive manual.

536	KEB106-STOP MAX ACC	Drive reporting Abnormal Stop Maximum Acceleration.	Refer to the KEB drive manual.
537	KEB107-STOP SPD LIM	Drive reporting Abnormal Stop Speed Control Limit.	Refer to the KEB drive manual.
538	KEB108	Drive reporting an undefined KEB108 status.	Refer to the KEB drive manual.
539	KEB109	Drive reporting an undefined KEB109 status.	Refer to the KEB drive manual.
540	KEB110	Drive reporting an undefined KEB110 status.	Refer to the KEB drive manual.
541	KEB111	Drive reporting an undefined KEB111 status.	Refer to the KEB drive manual.
542	KEB112	Drive reporting an undefined KEB112 status.	Refer to the KEB drive manual.
543	KEB113	Drive reporting an undefined KEB113 status.	Refer to the KEB drive manual.
544	KEB114	Drive reporting an undefined KEB114 status.	Refer to the KEB drive manual.
545	KEB115	Drive reporting an undefined KEB115 status.	Refer to the KEB drive manual.
546	KEB116	Drive reporting an undefined KEB116 status.	Refer to the KEB drive manual.
547	KEB117	Drive reporting an undefined KEB117 status.	Refer to the KEB drive manual.
548	KEB118	Drive reporting an undefined KEB118 status.	Refer to the KEB drive manual.
549	KEB119	Drive reporting an undefined KEB119 status.	Refer to the KEB drive manual.
550	KEB120	Drive reporting an undefined KEB120 status.	Refer to the KEB drive manual.
551	KEB121-READY POS	Drive reporting Ready for Positioning.	Refer to the KEB drive manual.
552	KEB122-POS ACTIVE	Drive reporting Positioning Active.	Refer to the KEB drive manual.
553	KEB123-POS. NOT ACC	Drive reporting Position Not Accessible.	Refer to the KEB drive manual.
554	KEB124-PROT R.FWD	Drive reporting Protection Rotation Forward.	Refer to the KEB drive manual.
555	KEB125-PROT R.REV	Drive reporting Protection Rotation Reverse.	Refer to the KEB drive manual.
556	KEB126-POS NOT ACC	Drive reporting Position Not Accessible Ignored.	Refer to the KEB drive manual.
557	KEB127-CALC CMPLTE	Drive reporting Calculate Motor Data Complete.	Refer to the KEB drive manual.
558	KEB128-REF FOUND	Drive reporting Reference Found.	Refer to the KEB drive manual.

559	KEB129	Drive reporting an undefined KEB129 status.	Refer to the KEB drive manual.
560	KEB130	Drive reporting an undefined KEB130 status.	Refer to the KEB drive manual.
561	KEB131	Drive reporting an undefined KEB131 status.	Refer to the KEB drive manual.
562	KEB132	Drive reporting an undefined KEB132 status.	Refer to the KEB drive manual.
563	KEB133	Drive reporting an undefined KEB133 status.	Refer to the KEB drive manual.
564	KEB134	Drive reporting an undefined KEB134 status.	Refer to the KEB drive manual.
565	KEB135	Drive reporting an undefined KEB135 status.	Refer to the KEB drive manual.
566	KEB136	Drive reporting an undefined KEB136 status.	Refer to the KEB drive manual.
567	KEB137	Drive reporting an undefined KEB137 status.	Refer to the KEB drive manual.
568	KEB138	Drive reporting an undefined KEB138 status.	Refer to the KEB drive manual.
569	KEB139	Drive reporting an undefined KEB139 status.	Refer to the KEB drive manual.
570	KEB140	Drive reporting an undefined KEB140 status.	Refer to the KEB drive manual.
571	KEB141	Drive reporting an undefined KEB141 status.	Refer to the KEB drive manual.
572	KEB142	Drive reporting an undefined KEB142 status.	Refer to the KEB drive manual.
573	KEB143	Drive reporting an undefined KEB143 status.	Refer to the KEB drive manual.
574	KEB144	Drive reporting an undefined KEB144 status.	Refer to the KEB drive manual.
575	KEB145	Drive reporting an undefined KEB145 status.	Refer to the KEB drive manual.
576	KEB146	Drive reporting an undefined KEB146 status.	Refer to the KEB drive manual.
577	KEB147	Drive reporting an undefined KEB147 status.	Refer to the KEB drive manual.
578	KEB148	Drive reporting an undefined KEB148 status.	Refer to the KEB drive manual.
579	KEB149	Drive reporting an undefined KEB149 status.	Refer to the KEB drive manual.
580	KEB150-M.CONT FAIL	Drive reporting Main Contact Failure.	Refer to the KEB drive manual.
581	KEB151-BRK SW FAIL	Drive reporting Brake Switch Failure.	Refer to the KEB drive manual.

582	KEB152-SPD FOLLOW	Drive reporting Speed Following Error.	Refer to the KEB drive manual.
583	KEB153-SPD SELECT	Drive reporting Speed Selection Error.	Refer to the KEB drive manual.
584	KEB154-ETS IN. FAIL	Drive reporting ETS Input Failure.	Refer to the KEB drive manual.
585	KEB155-ETS OVRSPD	Drive reporting ETS Overspeed.	Refer to the KEB drive manual.
586	KEB156-NTS IN. FAIL	Drive reporting NTS Input Failure.	Refer to the KEB drive manual.
587	KEB157-SIGNAL FAIL	Drive reporting Analog Signal Failure.	Refer to the KEB drive manual.
588	KEB158-UNIN. MVMT	Drive reporting Unintended Movement.	Refer to the KEB drive manual.
589	KEB159-SC FLT RST	Drive reporting Secure Fault Reset.	Refer to the KEB drive manual.
590	KEB160-ESD IN. FAIL	Drive reporting ESD Input Failure.	Refer to the KEB drive manual.
591	KEB161-DIR SEL FAIL	Drive reporting Direction Selection Failure.	Refer to the KEB drive manual.
592	KEB162-DRV EN SW OFF	Drive reporting Drive Enabled Switched Off.	Refer to the KEB drive manual.
593	KEB163-FIELD BUS WD	Drive reporting Error Field Bus Watchdog.	Refer to the KEB drive manual.
594	KEB164-COM POS	Drive reporting Error Commutation Position.	Refer to the KEB drive manual.
595	KEB165-EXCESS ACL	Drive reporting Error Excessive Acceleration.	Refer to the KEB drive manual.
596	KEB166-SER.CMD.SPD	Drive reporting Error Serial Command Speed.	Refer to the KEB drive manual.
597	KEB167	Drive reporting an undefined KEB167 status.	Refer to the KEB drive manual.
598	KEB168	Drive reporting an undefined KEB168 status.	Refer to the KEB drive manual.
599	KEB169	Drive reporting an undefined KEB169 status.	Refer to the KEB drive manual.
600	KEB170-UPS MODE	Drive reporting UPS Mode.	Refer to the KEB drive manual.
601	KEB171-REDUCE TRQ	Drive reporting Reduced Torque.	Refer to the KEB drive manual.
602	KEB172-EPOW PROF	Drive reporting Emergency Profile.	Refer to the KEB drive manual.
603	KEB173-EPOW GEN SPD	Drive reporting Emergency Generator Speed.	Refer to the KEB drive manual.
604	KEB174-EQ SPEED	Drive reporting Earthquake Speed.	Refer to the KEB drive manual.

605	KEB175-EMG SLOWDOWN	Drive reporting Emergency Slowdown.	Refer to the KEB drive manual.
606	KEB176	Drive reporting an undefined KEB176 status.	Refer to the KEB drive manual.
607	KEB177	Drive reporting an undefined KEB177 status.	Refer to the KEB drive manual.
608	KEB178	Drive reporting an undefined KEB178 status.	Refer to the KEB drive manual.
609	KEB179	Drive reporting an undefined KEB179 status.	Refer to the KEB drive manual.
610	KEB180	Drive reporting an undefined KEB180 status.	Refer to the KEB drive manual.
611	KEB181	Drive reporting an undefined KEB181 status.	Refer to the KEB drive manual.
612	KEB182	Drive reporting an undefined KEB182 status.	Refer to the KEB drive manual.
613	KEB183	Drive reporting an undefined KEB183 status.	Refer to the KEB drive manual.
614	KEB184	Drive reporting an undefined KEB184 status.	Refer to the KEB drive manual.
615	KEB185	Drive reporting an undefined KEB185 status.	Refer to the KEB drive manual.
616	KEB186	Drive reporting an undefined KEB186 status.	Refer to the KEB drive manual.
617	KEB187	Drive reporting an undefined KEB187 status.	Refer to the KEB drive manual.
618	KEB188	Drive reporting an undefined KEB188 status.	Refer to the KEB drive manual.
619	KEB189	Drive reporting an undefined KEB189 status.	Refer to the KEB drive manual.
620	KEB190	Drive reporting an undefined KEB190 status.	Refer to the KEB drive manual.
621	KEB191	Drive reporting an undefined KEB191 status.	Refer to the KEB drive manual.
622	KEB192	Drive reporting an undefined KEB192 status.	Refer to the KEB drive manual.
623	KEB193	Drive reporting an undefined KEB193 status.	Refer to the KEB drive manual.
624	KEB194	Drive reporting an undefined KEB194 status.	Refer to the KEB drive manual.
625	KEB195	Drive reporting an undefined KEB195 status.	Refer to the KEB drive manual.
626	KEB196	Drive reporting an undefined KEB196 status.	Refer to the KEB drive manual.
627	KEB197	Drive reporting an undefined KEB197 status.	Refer to the KEB drive manual.

628	KEB198	Drive reporting an undefined KEB198 status.	Refer to the KEB drive manual.
629	KEB199	Drive reporting an undefined KEB199 status.	Refer to the KEB drive manual.
630	KEB200-NO COM E.CARD	Drive reporting No Communication to Encoder Card.	Refer to the KEB drive manual.
631	KEB201-E.CARD COM OK	Drive reporting Encoder Communication OK.	Refer to the KEB drive manual.
632	KEB202-ENCODER UNDEF	Drive reporting Encoder Not Defined.	Refer to the KEB drive manual.
633	KEB203	Drive reporting an undefined KEB203 status.	Refer to the KEB drive manual.
634	KEB204	Drive reporting an undefined KEB204 status.	Refer to the KEB drive manual.
635	KEB205	Drive reporting an undefined KEB205 status.	Refer to the KEB drive manual.
636	KEB206-NO COM TO ENC	Drive reporting No Communication to Encoder.	Refer to the KEB drive manual.
637	KEB207-INC COUNT DEV	Drive reporting Incremental Count Deviation.	Refer to the KEB drive manual.
638	KEB208-EN.PPR LE01	Drive reporting Encoder PPR does not match LE01.	Refer to the KEB drive manual.
639	KEB209-ID WRONG	Drive reporting Interface ID is wrong.	Refer to the KEB drive manual.
640	KEB210	Drive reporting an undefined KEB210 status.	Refer to the KEB drive manual.
641	KEB211	Drive reporting an undefined KEB211 status.	Refer to the KEB drive manual.
642	KEB212	Drive reporting an undefined KEB212 status.	Refer to the KEB drive manual.
643	KEB213-ENC. OVHT	Drive reporting Encoder Overtemperature.	Refer to the KEB drive manual.
644	KEB214-ENC. OVRSPD	Drive reporting Encoder Overspeed.	Refer to the KEB drive manual.
645	KEB215-ENC. LOW VOLT	Drive reporting Encoder Supply Voltage Too Low.	Refer to the KEB drive manual.
646	KEB216-INTERNAL ENC.	Drive reporting Internal Encoder Error.	Refer to the KEB drive manual.
647	KEB217-ENC.FRMATING	Drive reporting Formatting Encoder.	Refer to the KEB drive manual.
648	KEB218	Drive reporting an undefined KEB218 status.	Refer to the KEB drive manual.
649	KEB219	Drive reporting an undefined KEB219 status.	Refer to the KEB drive manual.

650	KEB220	Drive reporting an undefined KEB220 status.	Refer to the KEB drive manual.
651	KEB221-NEW ENC.	Drive reporting New Encoder Identified.	Refer to the KEB drive manual.
652	KEB222-UNDEF ENC.	Drive reporting Undefined Encoder Error.	Refer to the KEB drive manual.
653	KEB223-ENC.IN BSY	Drive reporting Encoder Interface Busy	Refer to the KEB drive manual.
654	Inv. Land Off	Group landing offset setting it outside valid range.	The sum of the landing offset and the car's number of floors should be less than the max supported landings. Currently this offset is also bounded to less than 32.
655	Payment Passcode	Enter payment passcode under SETUP | MISC | PAYMENT PASSCODE.	Submit payment and receive payment passcode from Smartrise Engineering.
656	Battery Check Fail	Battery lowering device is reporting a fault state.	Check backup battery
657	Inv. ETSL 1	Normal profile ETSL points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETSL point recalculation.
658	Inv. ETSL 2	Inspection profile ETSL points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETSL point recalculation.
659	Inv. ETSL 3	Emergency profile ETSL points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETSL point recalculation.
660	Inv. ETSL 4	Short profile ETSL points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a ETSL point recalculation.
663	CEDES3 Offline	Communication with ETSL CEDES channel 2 was lost.	Check camera wiring.
664	CEDES3 Read	ETSL CEDES channel 2 reporting a failure to read error.	Clean the tape. Align the tape with the camera.
665	CEDES3 Close	ETSL CEDES channel 2 reporting the tape is aligned too close relative to the camera.	Clean the tape. Align the tape with the camera.

666	CEDES3 Far	ETSL CEDES channel 2 reporting the tape is aligned too far relative to the camera.	Clean the tape. Align the tape with the camera.
667	CEDES3 Left	ETSL CEDES channel 2 reporting the tape is aligned too left relative to the camera.	Clean the tape. Align the tape with the camera.
668	CEDES3 Right	ETSL CEDES channel 2 reporting the tape is aligned too right relative to the camera.	Clean the tape. Align the tape with the camera.
669	CEDES3 Internal	ETSL CEDES channel 2 reporting an internal error.	NA
670	CEDES3 Comm.	ETSL CEDES channel 2 reporting a communication error.	NA
671	CEDES3 X1 Pos	ETSL CEDES channel 2 reporting a position cross check error.	NA
672	CEDES3 X1 Vel	ETSL CEDES channel 2 reporting a velocity cross check error.	NA
673	CEDES3 X1 Both	ETSL CEDES channel 2 reporting a cross check error.	NA
674	CEDES3 X2 Pos	ETSL CEDES channel 2 reporting a position cross check error.	NA
675	CEDES3 X2 Vel	ETSL CEDES channel 2 reporting a velocity cross check error.	NA
676	CEDES3 X2 Both	ETSL CEDES channel 2 reporting a cross check error.	NA
677	RS Buffer P1	Digital S-curve Technology ™ (U.S. Patent Pending) normal profile decel exceeds limit for reduced speed buffer.	Lower the Digital S-curve Technology ™ (U.S. Patent Pending) decel parameters until the fault clears.
678	RS Buffer P2	Digital S-curve Technology ™ (U.S. Patent Pending) inspection profile decel exceeds limit for reduced speed buffer.	Lower the Digital S-curve Technology ™ (U.S. Patent Pending) decel parameters until the fault clears.
679	RS Buffer P3	Digital S-curve Technology ™ (U.S. Patent Pending) e-power profile decel exceeds limit for reduced speed buffer.	Lower the Digital S-curve Technology ™ (U.S. Patent Pending) decel parameters until the fault clears.
680	RS Buffer P4	Digital S-curve Technology ™ (U.S. Patent Pending) short profile decel exceeds limit for reduced speed buffer.	Lower the Digital S-curve Technology ™ (U.S. Patent Pending) decel parameters until the fault clears.
681	UETS OVSP 1	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.

682	UETS OVSP 2	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
683	UETS OVSP 3	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
684	UETS OVSP 4	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
685	UETS OVSP 5	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
686	UETS OVSP 6	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
687	UETS OVSP 7	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
688	UETS OVSP 8	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
689	DETS OVSP 1	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
690	DETS OVSP 2	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
691	DETS OVSP 3	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
692	DETS OVSP 4	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
693	DETS OVSP 5	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
694	DETS OVSP 6	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
695	DETS OVSP 7	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.
696	DETS OVSP 8	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETS debounce limit.

697	UETSL OVSP 1	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
698	UETSL OVSP 2	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
699	UETSL OVSP 3	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
700	UETSL OVSP 4	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
701	UETSL OVSP 5	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
702	UETSL OVSP 6	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
703	UETSL OVSP 7	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
704	UETSL OVSP 8	Car speed exceeded the top terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
705	DETSL OVSP 1	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
706	DETSL OVSP 2	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
707	DETSL OVSP 3	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
708	DETSL OVSP 4	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
709	DETSL OVSP 5	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
710	DETSL OVSP 6	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
711	DETSL OVSP 7	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.

712	DETSL OVSP 8	Car speed exceeded the bottom terminal speed limit.	Lower your deceleration curve parameters or increase the ETSL debounce limit.
713	FAULT INPUT	Discrete fault input has been high for 200ms.	Check IO configuration & wiring.
714	Drive Fault (UNK)	Drive reporting a fault that is out of the C4 system's defined range.	Check the drive fault log. Note, for KEB this signals that the drive ready output is either low or the output is misconfigured on the drive.
715	FRAM Data Corrupt	FRAM data redundancy check has failed and data was not recovered.	Contact support.
716	Max Runs Per Minute	Car exceeding max number of runs per minute.	Check that car is not repeatedly releveling for a floor.
717	Need To Cycle Pwr CT	A system configuration parameter was changed. The system must be power cycled.	Cycle power to the system.
718	Need To Cycle Pwr COP	A system configuration parameter was changed. The system must be power cycled.	Cycle power to the system.
719	Front TCL Open	Front top closed interlock is open	Check wiring of TCL, GSW and DZ signals. This fault is flagged when outside of DZ and TCL is open. It is also flagged when GSW is closed and TCL is open.
720	Front MCL Open	Front middle closed interlock is open	Check wiring of MCL, GSW and DZ signals. This fault is flagged when outside of DZ and MCL is open. It is also flagged when GSW is closed and MCL is open.
721	Front BCL Open	Front bottom closed interlock is open	Check wiring of BCL, GSW and DZ signals. This fault is flagged when outside of DZ and BCL is open. It is also flagged when GSW is closed and BCL is open.
722	Rear TCL Open	Rear top closed interlock is open	Check wiring of TCL, GSW and DZ signals. This fault is flagged when outside of DZ and TCL is open. It is also flagged when GSW is closed and TCL is open.
723	Rear MCL Open	Rear middle closed interlock is open	Check wiring of MCL, GSW and DZ signals. This fault is flagged when outside of DZ and MCL is open. It is also flagged when GSW is closed and MCL is open.

724	Rear BCL Open	Rear bottom closed interlock is open	Check wiring of BCL, GSW and DZ signals. This fault is flagged when outside of DZ and BCL is open. It is also flagged when GSW is closed and BCL is open.
725	Inv. EPWR Spd	Emergency power speed setting is outside the valid range.	Set epower speed to a value from 10 to the configured contract speed.
726	Inv. ACCESS Spd	Access speed setting is outside the valid range.	Set access speed to a value from 0 to 150.
727	Unint. LCK And GSW	A GSW and Lock is open and the car is more than two and a half inches from the nearest learned floor position. The movement direction agrees with the commanded.	Check wiring and safety contacts.
728	DPMF Open	Front DPM Open	Check wiring and safety contacts.
729	DPMR Open	Rear DPM Open	Check wiring and safety contacts.
730	CPLD MR Startup	CPLD reporting a startup state.	NA
731	CPLD CT Startup	CPLD reporting a startup state.	NA
732	CPLD COP Startup	CPLD reporting a startup state.	NA
733	CPLD Unint Mov	CPLD reporting unintended movement.	Press the EBRK RST button to clear.
734	CPLD CT Comm	MR CPLD reporting loss of communication with CT CPLD.	Check for miswiring on the CN2 network. Check CT/COP toggle switch.
735	CPLD COP Comm	CT CPLD reporting loss of communication with COP CPLD.	Check for miswiring on the CN2 network. Check CT/COP toggle switch.
736	CPLD 120 VAC	CPLD reporting loss of 120 AC supply.	NA
737	CPLD Gov	CPLD reporting loss of machine room governor input.	Press the EBRK RST button to clear.
738	CPLD Car Byp	CPLD reporting invalid activation of machine room car door bypass switch.	NA
739	CPLD Hall Byp	CPLD reporting invalid activation of machine room hall door bypass switch.	NA
740	CPLD SFM	CPLD reporting loss of machine room SFM input.	NA
741	CPLD SFH	CPLD reporting loss of machine room SFH input.	NA

742	CPLD PIT	CPLD reporting loss of machine room PIT input.	NA
743	CPLD BUF	CPLD reporting loss of machine room BUF input.	NA
744	CPLD TFL	CPLD reporting loss of machine room TFL input.	NA
745	CPLD BFL	CPLD reporting loss of machine room BFL input.	NA
746	CPLD CT SW	CPLD reporting loss of car top switch (CT-SF1) input.	NA
747	CPLD Esc Hatch	CPLD reporting loss of escape hatch (CT-SF2) input.	NA
748	CPLD Car Safety	CPLD reporting loss of car safeties (CT-SF3) input.	NA
749	CPLD IC Stop	CPLD reporting loss of in car stop switch (COP-SF2) input.	NA
750	CPLD Fire Stop	CPLD reporting loss of fire stop switch (COP-SF3) input.	NA
751	CPLD Insp.	CPLD reporting invalid inspection mode.	NA
752	CPLD Access	CPLD reporting invalid hoistway access move request.	NA
753	CPLD LFT	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
754	CPLD LFM	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
755	CPLD LFB	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
756	CPLD LRT	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
757	CPLD LRM	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
758	CPLD LRB	CPLD reporting multiple locks are open or a lock is open outside of door zone.	NA
759	CPLD GSWF	CPLD reporting gate switch is open outside of door zone.	NA
760	CPLD GSWR	CPLD reporting gate switch is open outside of door zone.	NA
761	PF Pit Insp	CPLD reporting preflight check failed.	NA

762	PF Lnd Insp	CPLD reporting preflight check failed.	NA
763	PF BFL	CPLD reporting preflight check failed.	NA
764	PF TFL	CPLD reporting preflight check failed.	NA
765	PF BUF	CPLD reporting preflight check failed.	NA
766	PF PIT	CPLD reporting preflight check failed.	NA
767	PF GOV	CPLD reporting preflight check failed.	NA
768	PF SFH	CPLD reporting preflight check failed.	NA
769	PF SFM	CPLD reporting preflight check failed.	NA
770	PF LFT	CPLD reporting preflight check failed.	NA
771	PF LFM	CPLD reporting preflight check failed.	NA
772	PF LFB	CPLD reporting preflight check failed.	NA
773	PF LRT	CPLD reporting preflight check failed.	NA
774	PF LRM	CPLD reporting preflight check failed.	NA
775	PF LRB	CPLD reporting preflight check failed.	NA
776	PF Hall Byp	CPLD reporting preflight check failed.	NA
777	PF Car Byp	CPLD reporting preflight check failed.	NA
778	PF MR Insp	CPLD reporting preflight check failed.	NA
779	PF C Pick Byp	CPLD reporting preflight check failed.	NA
780	PF M Pick Byp	CPLD reporting preflight check failed.	NA
781	PF M Drop Grip	CPLD reporting preflight check failed.	NA
782	PF C Drop Grip	CPLD reporting preflight check failed.	NA
783	PF C Pick Grip	CPLD reporting preflight check failed.	NA
784	PF M Pick Grip	CPLD reporting preflight check failed.	NA

785	PF M Drop Byp	CPLD reporting preflight check failed.	NA
786	PF C Drop Byp	CPLD reporting preflight check failed.	NA
787	CPLD MR Unk.	CPLD reporting out of range error.	NA
788	PF CT Sw	CPLD reporting preflight check failed.	NA
789	PF Esc Hatch	CPLD reporting preflight check failed.	NA
790	PF Car Safety	CPLD reporting preflight check failed.	NA
791	PF CT Insp	CPLD reporting preflight check failed.	NA
792	PF GSWF	CPLD reporting preflight check failed.	NA
793	PF GSWR	CPLD reporting preflight check failed.	NA
794	PF DZF	CPLD reporting preflight check failed.	NA
795	PF DZR	CPLD reporting preflight check failed.	NA
796	CPLD CT Unk	CPLD reporting out of range error.	NA
797	PF HA Insp	CPLD reporting preflight check failed.	NA
798	PF IC Stop	CPLD reporting preflight check failed.	NA
799	PF FSS	CPLD reporting preflight check failed.	NA
800	PF IC Insp	CPLD reporting preflight check failed.	NA
801	CPLD COP Unk	CPLD reporting out of range error.	NA
802	Brake Overheat	Brake board has over heated.	NA
803	EBrake Overheat	Secondary brake board has over heated.	NA
804	Mo. Pick B1	Motion start sequence aborted due to missing B contactor feedback.	NA
805	OVSP DO DPMF	Car speed exceeded 150 fpm with front door position monitor open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.
806	OVSP DO DPMR	Car speed exceeded 150 fpm with rear door position monitor open.	Confirm system speed and speed read from Cedes match. Check door contacts and wiring.

807	EQ	Seismic input is high	Check the Seismic input
808	PHE Test Fail	Freight door photoeye test has failed.	Check light curtain hardware.
809	Mo. Prepare GSWF Open	Motion start sequence aborted due to incorrect GSWF state.	Check the GSWF contact.
810	Mo. Prepare LFT Open	Motion start sequence aborted due to incorrect LFT state.	Check the LFT contact.
811	Mo. Prepare LFM Open	Motion start sequence aborted due to incorrect LFM state.	Check the LFM contact.
812	Mo. Prepare DPM F Open	Motion start sequence aborted due to incorrect DPM F state.	Check the DPM F contact
813	Mo. Prepare LFB Open	Motion start sequence aborted due to incorrect LFB state.	Check the LFB contact.
814	Mo. Prepare GSWR Open	Motion start sequence aborted due to incorrect GSWR state.	Check the GSWR contact.
815	Mo. Prepare LRT Open	Motion start sequence aborted due to incorrect LRT state.	Check the LRT contact.
816	Mo. Prepare LRM Open	Motion start sequence aborted due to incorrect LRM state.	Check the LRM contact.
817	Mo. Prepare LRB Open	Motion start sequence aborted due to incorrect LRB state.	Check the LRB contact.
818	Mo. Prepare DPM R Open	Motion start sequence aborted due to incorrect DPM R state.	Check the DPM R contact.
819	Mo. Accel GSWF Open	Motion start sequence aborted due to missing GSWF.	Check the GSWF contact.
820	Mo. Accel LFT Open	Motion start sequence aborted due to missing LFT .	Check the LFT contact.
821	Mo. Accel LFM Open	Motion start sequence aborted due to missing LFM.	Check the LFM contact.
822	Mo. Accel LFB Open	Motion start sequence aborted due to missing LFB.	Check the LFB contact.
823	Mo. Accel DPM F Open	Motion start sequence aborted due to missing DPM F.	Check the DPM F contact.
824	Mo. Accel GSWR Open	Motion start sequence aborted due to missing GSWR.	Check the GSWR contact.
825	Mo. Accel LRT Open	Motion start sequence aborted due to missing LRT.	Check the LRT contact.
826	Mo. Accel LRM Open	Motion start sequence aborted due to missing LRM.	Check the LRM contact.
827	Mo. Accel LRB Open	Motion start sequence aborted due to missing LRB.	Check the LRB contact.
828	Mo. Accel DPM R Open	Motion start sequence aborted due to missing DPM R.	Check the DPM R contact.
829	Mo. Prepare DCL F	Motion start sequence aborted due to incorrect DCL F state.	Check the DCL F contact.

830	Mo. Prepare DCL R	Motion start sequence aborted due to incorrect DCL R state.	Check the DCL R contact.
831	Mo. Prepare DOL F	Motion start sequence aborted due to incorrect DOL F state.	Check the DOL F contact.
832	Mo. Prepare DOL R	Motion start sequence aborted due to incorrect DOL R state.	Check the DOL R contact.
833	Mo. Accel DCL F	Motion start sequence aborted due to missing DCL F.	Check the DCL F contact.
834	Mo. Accel DCL R	Motion start sequence aborted due to missing DCL R.	Check the DCL R contact.
835	Mo. Accel DOL F	Motion start sequence aborted due to incorrect DOL F state.	Check the DOL F contact.
836	Mo. Accel DOL R	Motion start sequence aborted due to incorrect DOL R state.	Check the DOL R contact.
862	Motor Overheat	The Motor Overheat input has been triggered. The motor is overheated.	Check the Motor Overheat input. Check the state of the motor.
879	Mo. Run Engaged	Motion start sequence aborted due to missing DSD output Run Engaged.	Check the wiring of the DSD run engaged output to the C4 controller. Confirm that the output is programmed on the DSD drive and the corresponding input is programmed on the C4 controller.
900	COPA Param Sync	Parameters are synchronizing.	NA
901	COPB Param Sync	Parameters are synchronizing.	NA
907	Restore Drive Param	Restore the drive parameters after Acceptance test completion or if the acceptance test is interrupted (If the FRAM values for drive parameter is nonzero)	Turn On A1 dip switch and hit reset, this will make the FRAM values for the drive parameters 0
908	OOS Consecutive	Car has flagged the same fault 3 times in a row and has been taken out of service.	This fault does not auto clear. Controller must be power cycled to clear this state.
909	OOS Hourly	The car has flagged more than X faults within an hour and the car has been taken out of service. This hour is not aligned with the real time clock. This OOS state will auto reset after the hour passes. X is HourlyFaultLimit (08-160).	Investigate the faults logged within an hour of this fault. Reset the controller or move to inspection to clear the fault immediately, otherwise this fault auto clears after an hour.
910	OOS Door	The car has flagged more than X door faults within an hour and the car has been taken out of	Investigate the door faults logged within an hour of this fault. Reset the controller or move to

		service. This hour is not aligned with the real time clock. This OOS state will auto reset after the hour passes. X is DoorHourlyFaultLimit (08-148).	inspection to clear the fault immediately, otherwise this fault auto clears after an hour.
911	OOS Max Starts	The car has attempted to run more than X times within a minute. This minute is not aligned with the real time clock. This OOS state will auto reset after the minute passes. X is MaxStartsPerMinute (08-196).	Check if the car is repeatedly correcting or releveling trying to make floor level. Check if the car is repeatedly trying and failing to start a run. Reset the controller or move to inspection to clear the fault immediately. Otherwise, the fault auto clears after 1 minute.
912	OOS Key switch	The car has been taken out of service by the OOS key switch input.	Check the status of the OOS key switch input.
913	OOS DL20	The car has been taken out of service by the DL20 fixture.	Check the fault status of the DL20 fixture.
919	Inv. Run Dist.	The car has moved since its original destination assessment. The new destination request is no longer achievable.	Depending on the amount of movement that occurs when the run drops, and the car's configured SETUP | SCURVE | DEST. OFFSET UP, DEST. OFFSET DOWN, RELEVEL OFFSET UP, RELEVEL OFFSET DOWN, the car may not be able to make the requested run. Reducing the amount of car movement at the end of run will reduce the likelihood of this occurring.
920	ENDAT FAULT	Drive is reporting an Endat fault.	Refer to the Quattro drive manual.
921	OLA ENDT FLT	Drive is reporting an OLA ENDT FLT	Refer to the Quattro drive manual.
922	OLA ENC FLT	Drive is reporting an OLA ENC FLT	Refer to the Quattro drive manual.
923	SETUP FAULT 9	Drive is reporting a SETUP FAULT 9	Refer to the Quattro drive manual.
924	QUATTRO FLT 49	Drive is reporting an undefined fault 49	Refer to the Quattro drive manual.
925	QUATTRO FLT 50	Drive is reporting an undefined fault 50	Refer to the Quattro drive manual.
926	HW/SW MISMATCH	Drive is reporting an HW/SW MISMATCH	Refer to the Quattro drive manual.

927	QUATTRO FLT 52	Drive is reporting an undefined fault 52	Refer to the Quattro drive manual.
928	MSPD TMR FLT	Drive is reporting an MSPD TMR FLT	Refer to the Quattro drive manual.
929	QUATTRO FLT 54	Drive is reporting an undefined fault 54	Refer to the Quattro drive manual.
930	SER2 SPD FLT	Drive is reporting an SER2 SPD FLT	Refer to the Quattro drive manual.
931	MTR OVERLD FLT	Drive is reporting an MTR OVERLD FLT	Refer to the Quattro drive manual.
932	FIELD LOSS	Drive is reporting a FIELD LOSS	Refer to the Quattro drive manual.
933	MODULE A IGBT	Drive is reporting a MODULE A IGBT	Refer to the Quattro drive manual.
934	MODULE B IGBT	Drive is reporting a MODULE B IGBT	Refer to the Quattro drive manual.
935	OPEN ARMATURE	Drive is reporting an OPEN ARMATURE	Refer to the Quattro drive manual.
936	MODULE C IGBT	Drive is reporting a MODULE C IGBT	Refer to the Quattro drive manual.
937	LS TEMP FLT	Drive is reporting an LS TEMP FLT	Refer to the Quattro drive manual.
938	SFT CN OPENED	Drive is reporting an SFT CN OPENED	Refer to the Quattro drive manual.
939	SFT CN NOT CL	Drive is reporting an SFT CN NOT CL	Refer to the Quattro drive manual.
940	QUATTRO FLT 65	Drive is reporting an undefined fault 65	Refer to the Quattro drive manual.
941	QUATTRO FLT 66	Drive is reporting an undefined fault 66	Refer to the Quattro drive manual.
942	QUATTRO FLT 67	Drive is reporting an undefined fault 67	Refer to the Quattro drive manual.
943	CHECK SETUP	Drive is reporting a CHECK SETUP	Refer to the Quattro drive manual.
944	REVERSE TACH	Drive is reporting a REVERSE TACH	Refer to the Quattro drive manual.
945	IP COMM	Drive is reporting an IP COMM	Refer to the Quattro drive manual.
946	MS-LS MISMTCH	Drive is reporting an MS-LS MISMTCH	Refer to the Quattro drive manual.
947	MONITOR REV	Drive is reporting a MONITOR REV	Refer to the Quattro drive manual.
948	UTIL DATA SUM	Drive is reporting UTIL DATA SUM	Refer to the Quattro drive manual.
949	QUATTRO FLT 74	Drive is reporting an undefined fault 74	Refer to the Quattro drive manual.

950	QUATTRO FLT 75	Drive is reporting an undefined fault 75	Refer to the Quattro drive manual.
951	QUATTRO FLT 76	Drive is reporting an undefined fault 76	Refer to the Quattro drive manual.
952	QUATTRO FLT 77	Drive is reporting an undefined fault 77	Refer to the Quattro drive manual.
953	QUATTRO FLT 78	Drive is reporting an undefined fault 78	Refer to the Quattro drive manual.
954	MS SIZE	Drive is reporting a MS SIZE	Refer to the Quattro drive manual.
955	QUATTRO FLT 80	Drive is reporting an undefined fault 80	Refer to the Quattro drive manual.
956	POWER ON	Drive is reporting a POWER ON	Refer to the Quattro drive manual.
957	FLD PWM SET HI	Drive is reporting a FLD PWM SET HI	Refer to the Quattro drive manual.
958	QUATTRO FLT 83	Drive is reporting an undefined fault 83	Refer to the Quattro drive manual.
959	QUATTRO FLT 84	Drive is reporting an undefined fault 84	Refer to the Quattro drive manual.
960	GATE PWR ENA	Drive is reporting a GATE PWR ENA	Refer to the Quattro drive manual.
961	GATE ALARM	Drive is reporting a GATE ALARM	Refer to the Quattro drive manual.
962	QUATTRO FLT 87	Drive is reporting an undefined fault 87	Refer to the Quattro drive manual.
963	QUATTRO FLT 88	Drive is reporting an undefined fault 88	Refer to the Quattro drive manual.
964	QUATTRO FLT 89	Drive is reporting an undefined fault 89	Refer to the Quattro drive manual.
965	NTSD LOGIC IN	Drive is reporting a NTSD LOGIC IN	Refer to the Quattro drive manual.
966	NTSD SPEED	Drive is reporting a NTSD SPEED	Refer to the Quattro drive manual.
967	TORQ LIM 2HI FLT	Drive is reporting a TORQ LIM 2HI FLT	Refer to the Quattro drive manual.
968	CONNECTOR OFF	Drive is reporting a CONNECTOR OFF	Refer to the Quattro drive manual.
969	QUATTRO FLT 94	Drive is reporting an undefined fault 94	Refer to the Quattro drive manual.
970	QUATTRO FLT 95	Drive is reporting an undefined fault 95	Refer to the Quattro drive manual.
971	SPD DEV	Drive is reporting an SPD DEV	Refer to the Quattro drive manual.
972	NO OPTION CRD	Drive is reporting a NO OPTION CRD	Refer to the Quattro drive manual.

973	BRAKE IS OPEN	Drive is reporting a BRAKE IS OPEN	Refer to the Quattro drive manual.
974	AT CNTACTR FLT	Drive is reporting an AT CNTACTR FLT	Refer to the Quattro drive manual.
975	LS PHASE	Drive is reporting a LS PHASE	Refer to the Quattro drive manual.
976	LS CURR REG	Drive is reporting a LS CURR REG	Refer to the Quattro drive manual.
977	LS OVERVOLT	Drive is reporting a LS OVERVOLT	Refer to the Quattro drive manual.
978	LS UNDRVOLT	Drive is reporting a LS UNDRVOLT	Refer to the Quattro drive manual.
979	LS CHARGE	Drive is reporting a LS CHARGE	Refer to the Quattro drive manual.
980	LS OVERLOAD	Drive is reporting a LS OVERLOAD	Refer to the Quattro drive manual.
981	LS CUBE ID	Drive is reporting a LS CUBE ID	Refer to the Quattro drive manual.
982	LS DCU DATA	Drive is reporting a LS DCU DATA	Refer to the Quattro drive manual.
983	LS CUBE DATA	Drive is reporting a LS CUBE DATA	Refer to the Quattro drive manual.
984	LS PCU DATA	Drive is reporting a LS PCU DATA	Refer to the Quattro drive manual.
985	QUATTRO FLT 110	Drive is reporting an undefined fault 110	Refer to the Quattro drive manual.
986	LS OVERTEMP	Drive is reporting a LS OVERTEMP	Refer to the Quattro drive manual.
987	LS BRDG GND	Drive is reporting a LS BRDG GND	Refer to the Quattro drive manual.
988	LS OVERCURR	Drive is reporting a LS OVERCURR	Refer to the Quattro drive manual.
989	LS CONN OFF	Drive is reporting a LS CONN OFF	Refer to the Quattro drive manual.
990	LS IP COMM	Drive is reporting a LS IP COMM	Refer to the Quattro drive manual.
991	LS HW/SW	Drive is reporting a LS HW/SW	Refer to the Quattro drive manual.
992	LS IGBT 1	Drive is reporting a LS IGBT 1	Refer to the Quattro drive manual.
993	LS IGBT 2	Drive is reporting a LS IGBT 2	Refer to the Quattro drive manual.
994	LS IGBT 3	Drive is reporting a LS IGBT 3	Refer to the Quattro drive manual.
995	LS AC CNTCR	Drive is reporting a LS AC CNTCR	Refer to the Quattro drive manual.

996	LS CHK SETUP	Drive is reporting a LS CHK SETUP	Refer to the Quattro drive manual.
997	LINE HI VOLTS	Drive is reporting a LINE HI VOLTS	Refer to the Quattro drive manual.
998	LS SIZE	Drive is reporting a LS SIZE	Refer to the Quattro drive manual.
999	LS SW BUS OV	Drive is reporting a LS SW BUS OV	Refer to the Quattro drive manual.
1000	COUNTER WEIGHT DERAIL	The controller CW Derail was triggered.	Verify is the CW derail was activated.
1001	CEDES1 CRC FAILURE	CEDES channel 1 Data CRC check error.	NA
1002	CEDES2 CRC FAILURE	CEDES channel 2 Data CRC check error.	NA
1046	Bypass UM Redundancy	The MCUB_X8 sent from MRB to CPLD is not consistent with the feedback value from CPLD	
1047	Dir. Counter Tripped	The direction change counter exceeded the maximum allowed value.	Program the direction change counter reset input and activate it.
1048	Glass Window Switch	Glass window switch input has been activated.	Check glass window switch wiring.
1051	Collapsible CT Rail	This fault is asserted if parameter 01-339 is on and one of the following conditions is met : * The car is collapsible fully stowed(input on) and the mode of operation is on CT . * The car is collapsible fully extended (input on) while the car is not on CT operation. * The car is not fully collapsible extended and not collapsible fully stowed.	Check inputs collapsible fully stowed and collapsible fully extended
1052	SS TFL2	Second Top final limit (MR-TFL2) input missing.	Check wiring and safety contacts.
1053	CPLD TFL2	CPLD reporting loss of machine room TFL2 input.	NA
1098	OOS Redun. Disp.	The car has been taken out of service because of riser 1 or riser 2 offline.	Check riser 1 or riser 2 status
1100	Emergency Stop	This fault is triggered whenever the Emergency Stop switch input is activated.	Deactivate the Emergency Stop switch

2 Alarms

The Alarms menu displays all alarms reported by the system's hardware.

2.1 Active Alarms

When an alarm is detected, its type and description appear under the Active Alarms menu.

Follow these steps view the list of Active Alarms:

1. Navigate to **Main Menu | Alarms | Active**.
2. Review the list of alarms.
3. Scroll through the list and press the right button for a detailed description of each alarm.

2.2 Logged Alarms

All system alarms are logged. The Logged Alarms menu shows the alarm history – up to 32 entries on the CT and COP boards, and up to 256 on the MR board.

Follow these steps to view the list of Logged Alarms:

1. Navigate to **Main Menu | Alarms | Logged**.
2. Review the list of previously recorded alarms.

2.3 Cleared Alarms

The Cleared Alarms option deletes the entire alarm history log.

Follow these steps to Clear the Logged Alarms:

1. Navigate to **Main Menu | Alarms | Clear Log**.
2. Press the right button and select Yes to confirm.

2.4 List of Alarms

The table below provides a list of possible system alarms.

Table 3: List of Alarms

Alarm Number	Name	Definition	Solution
1	NTS Up P1-1	NTS point 1 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
2	NTS Up P1-2	NTS point 2 has been tripped in the up direction for the normal motion profile.	NA

		The lowest point is closest to the terminal.	
3	NTS Up P1-3	NTS point 3 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
4	NTS Up P1-4	NTS point 4 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
5	NTS Up P1-5	NTS point 5 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
6	NTS Up P1-6	NTS point 6 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
7	NTS Up P1-7	NTS point 7 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
8	NTS Up P1-8	NTS point 8 has been tripped in the up direction for the normal motion profile. The lowest point is closest to the terminal.	NA
9	NTS Up P2-1	NTS point 1 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
10	NTS Up P2-2	NTS point 2 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
11	NTS Up P2-3	NTS point 3 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
12	NTS Up P2-4	NTS point 4 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
13	NTS Up P2-5	NTS point 5 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
14	NTS Up P2-6	NTS point 6 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA

15	NTS Up P2-7	NTS point 7 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
16	NTS Up P2-8	NTS point 8 has been tripped in the up direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
17	NTS Up P3-1	NTS point 1 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
18	NTS Up P3-2	NTS point 2 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
19	NTS Up P3-3	NTS point 3 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
20	NTS Up P3-4	NTS point 4 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
21	NTS Up P3-5	NTS point 5 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
22	NTS Up P3-6	NTS point 6 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
23	NTS Up P3-7	NTS point 7 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
24	NTS Up P3-8	NTS point 8 has been tripped in the up direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
25	NTS Up P4-1	NTS point 1 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
26	NTS Up P4-2	NTS point 2 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
27	NTS Up P4-3	NTS point 3 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA

28	NTS Up P4-4	NTS point 4 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
29	NTS Up P4-5	NTS point 5 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
30	NTS Up P4-6	NTS point 6 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
31	NTS Up P4-7	NTS point 7 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
32	NTS Up P4-8	NTS point 8 has been tripped in the up direction for the Short motion profile. The lowest point is closest to the terminal.	NA
33	NTS Dn P1-1	NTS point 1 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
34	NTS Dn P1-2	NTS point 2 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
35	NTS Dn P1-3	NTS point 3 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
36	NTS Dn P1-4	NTS point 4 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
37	NTS Dn P1-5	NTS point 5 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
38	NTS Dn P1-6	NTS point 6 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
39	NTS Dn P1-7	NTS point 7 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
40	NTS Dn P1-8	NTS point 8 has been tripped in the down direction for the normal motion profile. The lowest point is closest to the terminal.	NA
41	NTS Dn P2-1	NTS point 1 has been tripped in the down direction for the inspection motion	NA

		profile. The lowest point is closest to the terminal.	
42	NTS Dn P2-2	NTS point 2 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
43	NTS Dn P2-3	NTS point 3 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
44	NTS Dn P2-4	NTS point 4 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
45	NTS Dn P2-5	NTS point 5 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
46	NTS Dn P2-6	NTS point 6 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
47	NTS Dn P2-7	NTS point 7 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
48	NTS Dn P2-8	NTS point 8 has been tripped in the down direction for the inspection motion profile. The lowest point is closest to the terminal.	NA
49	NTS Dn P3-1	NTS point 1 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
50	NTS Dn P3-2	NTS point 2 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
51	NTS Dn P3-3	NTS point 3 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
52	NTS Dn P3-4	NTS point 4 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
53	NTS Dn P3-5	NTS point 5 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA

54	NTS Dn P3-6	NTS point 6 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
55	NTS Dn P3-7	NTS point 7 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
56	NTS Dn P3-8	NTS point 8 has been tripped in the down direction for the E-Power motion profile. The lowest point is closest to the terminal.	NA
57	NTS Dn P4-1	NTS point 1 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
58	NTS Dn P4-2	NTS point 2 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
59	NTS Dn P4-3	NTS point 3 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
60	NTS Dn P4-4	NTS point 4 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
61	NTS Dn P4-5	NTS point 5 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
62	NTS Dn P4-6	NTS point 6 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
63	NTS Dn P4-7	NTS point 7 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
64	NTS Dn P4-8	NTS point 8 has been tripped in the down direction for the Short motion profile. The lowest point is closest to the terminal.	NA
65	NTS Invalid P1	Normal profile NTS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a NTS point recalculation.

66	NTS Invalid P2	Inspection profile NTS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a NTS point recalculation.
67	NTS Invalid P3	Emergency profile NTS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a NTS point recalculation.
68	NTS Invalid P4	Short profile NTS points are not of increasing in position/speed value or a trip speed exceeds contract speed.	Cycle power to the system or edit a Digital S-curve Technology ™ (U.S. Patent Pending) parameter to trigger a NTS point recalculation.
69	ES Class Op	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is commanded due to class of operation change.	NA
70	ES Stop Timeout	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is commanded due to run flag failing to drop.	NA
71	ES Move Timeout	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is commanded due to failing to start a run.	NA
72	ES Inv Insp	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is commanded due to invalid inspection mode.	NA
73	ES Recall Dest.	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is commanded due to invalid recall destination.	NA
74	ES Stop At Next	When 01-130 is set to ON, this debugging alarm will signal when the car is commanded to stop at next available floor.	NA
75	ES Earthquake	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is during EQ operation.	NA
76	ES Flood	When 01-150 is set to ON, this debugging alarm will signal when an ESTOP is during flood operation.	NA
77	Stop No DZ	Car is stopped outside of a door zone.	NA
78	Releveling	Car is performing releveling.	NA
79	Defaulting 1-Bit	Defaulting 1-bit parameters.	NA
80	Defaulting 8-Bit	Defaulting 8-bit parameters.	NA
81	Defaulting 16-Bit	Defaulting 16-bit parameters.	NA
82	Defaulting 24-Bit	Defaulting 24-bit parameters.	NA

83	Defaulting 32-Bit	Defaulting 32-bit parameters.	NA
84	Recall Inv Door	Requested recall destination has an invalid door configuration.	NA
85	Recall Inv Floor	Requested recall destination is an invalid floor.	NA
86	Recall Inv Opening	Requested recall destination is not a valid opening.	NA
87	MRA WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
88	MRB WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
89	CTA WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
90	CTB WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
91	COPA WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
92	COPB WDT Disabled	Processor has started up with watchdog disabled.	Remove the WD jumper and restart the board to reenable.
93 - 96	MR CAN Rst 1-4	Machine room SRU CAN1-4 transceiver has self-reset due to excessive bus errors.	Verify bus wiring. If problem persists, remove boards from the network to isolate the board with the problem transceiver.
97 - 100	CT CAN Rst 1-4	Car top SRU CAN1-4 transceiver has self-reset due to excessive bus errors.	Verify bus wiring. If problem persists, remove boards from the network to isolate the board with the problem transceiver.
101 - 104	COP CAN Rst 1-4	Car operating panel SRU CAN1-4 transceiver has self-reset due to excessive bus errors.	Verify bus wiring. If problem persists, remove boards from the network to isolate the board with the problem transceiver.
105	Drive Rst	Car is triggering a drive fault reset.	NA
106	Drive Rst Limit	Drive reset limit has been reached. The controller will no longer reset drive faults.	NA
107	Fully Loaded	The car is fully loaded and will no longer take hall calls.	NA
108	Remote PU 1-Bit	The car has received a remote request to change a 1-bit parameter.	NA
109	Remote PU 8-Bit	The car has received a remote request to change a 8-bit parameter.	NA
110	Remote PU 16-Bit	The car has received a remote request to change a 16-bit parameter.	NA
111	Remote PU 24-Bit	The car has received a remote request to change a 24-bit parameter.	NA
112	Remote PU 32-Bit	The car has received a remote request to change a 32-bit parameter.	NA
113	Remote PU Mag	The car has received a remote request to change a magnetek drive parameter.	NA

114	Remote PU KEB	The car has received a remote request to change a KEB drive parameter.	NA
115	Inv Man Run Door	Manual run request rejected due to invalid car door state.	NA
116	Inv Man Run Lock	Manual run request rejected due to invalid hall lock state.	NA
117	Inv Man Run Arm	Manual run request rejected due to disarmed direction inputs. This may occur if car enters inspection with its direction inputs active.	NA
120	Inv Man Run DOBF	Manual run request rejected due to front door open button request.	NA
121	Inv Man Run DOBR	Manual run request rejected due to rear door open button request.	NA
122	Inv Man Run HA	Manual run request rejected due to invalid hoistway access floor or opening configuration.	NA
123	Inv Man Run CT En	Manual run request rejected due to missing CT enable signal.	NA
124	Idle Dir Timeout	Car has been idle with a valid destination for the user configured timeout (08-202) and has been forced to change direction.	124
125	CPLD Offline MR	Debugging communication timer with MR CPLD elapsed.	NA
126	CPLD Offline CT	Debugging communication timer with CT CPLD elapsed.	NA
127	CPLD Offline COP	Debugging communication timer with COP CPLD elapsed.	NA
128	No Dest Stop	The car is in motion, but its destination has been canceled. There are no reachable alternative destinations. It will ramp down at the next available landing and reassess. This can occur in cases where a hall call is reassigned to a closer car. This will not occur if 01-00196 is ON.	128
129	Flood Switch	The flood switch has been activated.	129
130	Remote PU Backup	The car has received a remote request to change parameters in a bulk parameter restore format.	NA
131	Dup EP InterGroup	A Duplicate Group Priority was Detected	NA
132 - 139	I-Group 1-8 No Connection	Connection was lost for Inter Group 1-8	NA
140	I-Group0 Stat Rcvd	Intergroup status packet received by group with priority 0.	NA
141	CCB Secured	Pressed Car Call Button is secured.	Check security options to verify if the CCB should or should not be secured.

144	LWD Load Learn	C4 load weighing device is performing a load learn at each landing.	NA
145	LWD Recalibrate	C4 load weighing device is performing an empty car learn at each landing.	NA
146	Mode Changed	When 01-129 is ON, this debug alarm will be set when the mode of operation changes.	NA
147	RIS1 Offline	Riser1 marked as offline after 30 seconds without communication.	NA
148	RIS1 Unk	Riser1 reporting an unknown error.	NA
149	RIS1 POR Rst	Riser1 reporting a power-on reset error.	NA
150	RIS1 WDT Rst	Riser1 reporting a watchdog reset error.	NA
151	RIS1 BOD Rst	Riser1 reporting a brown-out reset error.	NA
152	RIS1 Group Net	Riser1 reporting a group network communication loss error.	NA
153	RIS1 Hall Net	Riser1 reporting a hall network communication loss error.	NA
154	RIS1 Car Net	Riser1 reporting an invalid error.	NA
155	RIS1 Mst Net	Riser1 reporting an invalid error.	NA
156	RS1 Slv Net	Riser1 reporting an invalid error.	NA
157	RIS1 DIP	Riser1 has detected another board with the same address.	NA
158	RIS1 Bus Rst 1	Riser1 reporting a CAN1 bus reset error.	NA
159	RIS1 Bus Rst 2	Riser1 reporting a CAN2 bus reset error.	NA
161	RIS1 Inv Msg 2	Riser 1 communication lost with a hall board that was previously on the network	NA
162	RIS2 Offline	Riser2 marked as offline after 30 seconds without communication.	NA
163	RIS2 Unk	Riser2 reporting an unknown error.	NA
164	RIS2 POR Rst	Riser2 reporting a power-on reset error.	NA
165	RIS2 WDT Rst	Riser2 reporting a watchdog reset error.	NA
166	RIS2 BOD Rst	Riser2 reporting a brown-out reset error.	NA
167	RIS2 Group Net	Riser2 reporting a group network communication loss error.	NA
168	RIS2 Hall Net	Riser2 reporting a hall network communication loss error.	NA
169	RIS2 Car Net	Riser2 reporting an invalid error.	NA
170	RIS2 Mst Net	Riser2 reporting an invalid error.	NA
171	RS1 Slv Net	Riser2 reporting an invalid error.	NA
172	RIS2 DIP	Riser2 has detected another board with the same address.	NA
173	RIS2 Bus Rst 1	Riser2 reporting a CAN1 bus reset error.	NA
174	RIS2 Bus Rst 2	Riser2 reporting a CAN2 bus reset error.	NA
176	RIS2 Inv Msg 2	Riser 2 communication lost with a hall board that was previously on the network	NA

177	RIS3 Offline	Riser3 marked as offline after 30 seconds without communication.	NA
178	RIS3 Unk	Riser3 reporting an unknown error.	NA
179	RIS3 POR Rst	Riser3 reporting a power-on reset error.	NA
180	RIS3 WDT Rst	Riser3 reporting a watchdog reset error.	NA
181	RIS3 BOD Rst	Riser3 reporting a brown-out reset error.	NA
182	RIS3 Group Net	Riser3 reporting a group network communication loss error.	NA
183	RIS3 Hall Net	Riser3 reporting a hall network communication loss error.	NA
184	RIS3 Car Net	Riser3 reporting an invalid error.	NA
185	RIS3 Mst Net	Riser3 reporting an invalid error.	NA
186	RS1 Slv Net	Riser3 reporting an invalid error.	NA
187	RIS3 DIP	Riser3 has detected another board with the same address.	NA
188	RIS3 Bus Rst 1	Riser3 reporting a CAN1 bus reset error.	NA
189	RIS3 Bus Rst 2	Riser3 reporting a CAN2 bus reset error.	NA
191	RIS3 Inv Msg 2	Riser 3 communication lost with a hall board that was previously on the network	NA
192	RIS4 Offline	Riser4 marked as offline after 30 seconds without communication.	NA
193	RIS4 Unk	Riser4 reporting an unknown error.	NA
194	RIS4 POR Rst	Riser4 reporting a power-on reset error.	NA
195	RIS4 WDT Rst	Riser4 reporting a watchdog reset error.	NA
196	RIS4 BOD Rst	Riser4 reporting a brown-out reset error.	NA
197	RIS4 Group Net	Riser4 reporting a group network communication loss error.	NA
198	RIS4 Hall Net	Riser4 reporting a hall network communication loss error.	NA
199	RIS4 Car Net	Riser4 reporting an invalid error.	NA
200	RIS4 Mst Net	Riser4 reporting an invalid error.	NA
201	RS1 Slv Net	Riser4 reporting an invalid error.	NA
202	RIS4 DIP	Riser4 has detected another board with the same address.	NA
203	RIS4 Bus Rst 1	Riser4 reporting a CAN1 bus reset error.	NA
204	RIS4 Bus Rst 2	Riser4 reporting a CAN2 bus reset error.	NA
206	RIS4 Inv Msg 2	Riser 4 communication lost with a hall board that was previously on the network.	NA
207 - 214	Dispatch T/O C1-8	Time to dispatch Car (1-8) expired.	NA
215 - 222	Dispatch T/O X1-8	Time to dispatch XREG Car (1-8) expired.	NA
223 - 230	XREG Offline 1-8	XREG Car (1-8) offline.	NA
232 - 298	MRA RT M1-67	Module runtime limit exceeded for MRA module index 1-67.	NA

299 - 362	MRB RT M1-64	Module runtime limit exceeded for MRB module index 1-64.	NA
363 - 427	CTA RT M1-65	Module runtime limit exceeded for CTA module index 1-65.	NA
428 - 491	CTB RT M1-64	Module runtime limit exceeded for CTB module index 1-64.	NA
492 - 555	COPA RT M1-64	Module runtime limit exceeded for COPA module index 164.	NA
556 - 619	COPB RT M1-64	Module runtime limit exceeded for COPB module index 1-64.	NA
620 - 627	Car Offline 1-8	Car (1-8) offline.	NA
628	DDM Offline	DD Panel manager board has gone offline.	Check DD manager board wiring.
629	Door Open In Motion	Test alarm signaling that both locks and gsw are open while in motion. Enabled with 01-159.	NA
630	FRAM Redundancy	FRAM's data redundancy check has failed, but the data was recovered.	NA
631	DO During Run	Debugging alarm signaling that DO output asserted during a run. Will not flag if decelerating, in stop sequence, or releveling.	NA
632	In Dest DZ During Run	Debugging alarm signaling that the flag preventing DO is being lost during a run. Will not flag if decelerating, in stop sequence, or releveling.	NA
633 - 640	Dupl. MR 501-508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
641 - 656	Dupl. CT 501-516	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
657 - 672	Dupl. COP 501 - 516	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
673 - 680	Dupl. RIS1 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
681 - 688	Dupl. RIS2 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
689 - 696	Dupl. RIS3 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
697 - 704	Dupl. RIS4 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
705 - 712	Dupl. EXP1 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
713 - 720	Dupl. EXP2 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
721 - 728	Dupl. EXP3 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
729 - 736	Dupl. EXP4 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
737 - 744	Dupl. EXP5 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.

745 - 752	Dupl. EXP6 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
753 - 760	Dupl. EXP7 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
761 - 768	Dupl. EXP8 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
769 - 776	Dupl. EXP9 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
777 - 784	Dupl. EXP10 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
785 - 792	Dupl. EXP11 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
793 - 800	Dupl. EXP12 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
801 - 808	Dupl. EXP13 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
809 - 816	Dupl. EXP14 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
817 - 824	Dupl. EXP15 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
825 - 832	Dupl. EXP16 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
833 - 840	Dupl. EXP17 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
841 - 848	Dupl. EXP18 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
849 - 856	Dupl. EXP19 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
857 - 864	Dupl. EXP20 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
865 - 872	Dupl. EXP21 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
873 - 880	Dupl. EXP22 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
881 - 888	Dupl. EXP23 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
889 - 896	Dupl. EXP24 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
897 - 904	Dupl. EXP25 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
905 - 912	Dupl. EXP26 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
913 - 920	Dupl. EXP27 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
921 - 928	Dupl. EXP28 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
929 - 936	Dupl. EXP29 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
937 - 944	Dupl. EXP30 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.

945 - 952	Dupl. EXP31 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
953 - 960	Dupl. EXP32 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
961 - 968	Dupl. EXP33 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
969 - 976	Dupl. EXP34 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
977 - 984	Dupl. EXP35 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
985 - 992	Dupl. EXP36 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
993 - 1000	Dupl. EXP37 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
1001 - 1008	Dupl. EXP38 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
1009 - 1016	Dupl. EXP39 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
1017 - 1024	Dupl. EXP40 501 - 508	Specified terminal exceeds the two-duplicate limit per input function.	Clear the terminal's function.
1025 - 1032	Dupl. MR 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1033 - 1048	Dupl. CT 601 - 616	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1049 - 1064	Dupl. COP 601 - 616	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1065 - 1072	Dupl. RIS1 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1073 - 1080	Dupl. RIS2 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1081 - 1088	Dupl. RIS3 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1089 - 1096	Dupl. RIS4 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1097 - 1104	Dupl. EXP1 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1105 - 1112	Dupl. EXP2 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1113 - 1120	Dupl. EXP3 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1121 - 1128	Dupl. EXP4 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1129 - 1136	Dupl. EXP5 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1137 - 1144	Dupl. EXP6 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1145 - 1152	Dupl. EXP7 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1153 - 1160	Dupl. EXP8 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.

1161 - 1168	Dupl. EXP9 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1169 - 1176	Dupl. EXP10 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1177 - 1184	Dupl. EXP11 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1185 - 1192	Dupl. EXP12 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1193 - 1200	Dupl. EXP13 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1201 - 1208	Dupl. EXP14 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1209 - 1216	Dupl. EXP15 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1217 - 1224	Dupl. EXP16 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1225 - 1232	Dupl. EXP17 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1233 - 1240	Dupl. EXP18 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1241 - 1248	Dupl. EXP19 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1249 - 1256	Dupl. EXP20 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1257 - 1264	Dupl. EXP21 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1265 - 1272	Dupl. EXP22 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1273 - 1280	Dupl. EXP23 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1281 - 1288	Dupl. EXP24 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1289 - 1296	Dupl. EXP25 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1297 - 1304	Dupl. EXP26 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1305 - 1312	Dupl. EXP27 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1313 - 1320	Dupl. EXP28 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1321 - 1328	Dupl. EXP29 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1329 - 1336	Dupl. EXP30 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1337 - 1344	Dupl. EXP31 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1345 - 1352	Dupl. EXP32 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1353 - 1360	Dupl. EXP33 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.

1361 - 1368	Dupl. EXP34 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1369 - 1376	Dupl. EXP35 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1377 - 1384	Dupl. EXP36 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1385 - 1392	Dupl. EXP37 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1393 - 1400	Dupl. EXP38 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1401 - 1408	Dupl. EXP39 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1409 - 1416	Dupl. EXP40 601 - 608	Specified terminal exceeds the two-duplicate limit per output function.	Clear the terminal's function.
1417	LWD Offline	Communication with load weighing device has been lost.	Check the status of the smart rise load weigher. If no load weigher exists, set load weigher select (08-135) to zero.
1418	DL20 Offline CT	Communication with DL20 fixture and car top SRU has been lost.	Check wiring and power to DL20.
1419	DL20 Offline COP	Communication with DL20 fixture and car operating panel SRU has been lost.	Check wiring and power to DL20.
1420	CPLD OVF MR	CPLD communication buffers have been overrun.	Contact smartrise support.
1421	CPLD OVF CT	CPLD communication buffers have been overrun.	Contact smartrise support.
1422	CPLD OVF COP	CPLD communication buffers have been overrun.	Contact smartrise support.
1423	Fire Key Main	Fire phase 1 has been activated by the main fire key switch.	Check the fire input and riser board status.
1424	Fire Key Remote	Fire phase 1 has been activated by the remote fire key switch.	Check the fire input and riser board status.
1425	Fire Smoke Main	Fire phase 1 has been activated by the main smoke input.	Check the fire input and riser board status.
1426	Fire Smoke Alt	Fire phase 1 has been activated by the alternate smoke input.	Check the fire input and riser board status.
1427	Fire Smoke MR	Fire phase 1 has been activated by the machine room smoke input.	Check the fire input and riser board status.
1428	Fire Smoke HA	Fire phase 1 has been activated by the hoistway smoke input.	Check the fire input and riser board status.
1429	Fire Smoke Latched	Fire phase 1 has been activated by a latched fire recall source following a power loss.	Check the fire input and riser board status.
1430	Fire Smoke Pit	Fire phase 1 has been activated by the pit smoke input.	Check the fire input and riser board status.
1431	Fire Smoke MR 2	Fire phase 1 has been activated by the second machine room smoke input.	Check the fire input and riser board status.
1432	Fire Smoke HA 2	Fire phase 1 has been activated by the second hoistway smoke input.	Check the fire input and riser board status.

1433	NEED TO RST MR	Machine room SRU board needs to be reset.	Cycle power to the machine room SRU board.
1434	NEED TO RST CT	Car top SRU board needs to be reset.	Cycle power to the car top SRU board.
1435	NEED TO RST COP	Car operating panel SRU board needs to be reset.	Cycle power to the car operating panel SRU board.
1436	Unint. Mov. Test Active	Unintended movement test feature is active. If not intended, turn OFF MR SRU DIP B8 and parameter 01-0052 to disable the feature.	Unintended movement test feature is active. If not intended, turn OFF MR SRU DIP B8 and parameter 01-0052 to disable the feature.
1437	Dupar COP Offline	Communication has been lost between Dupar COP and COP SRU.	Check wiring between Dupar COP and COP SRU (C3H/C3L)
1438	RIS1 HB Offline	Riser 1 has reported communication loss with one of its hall boards.	Check the hall board status menu for a hall board reporting 0% communication and check wiring.
1439	RIS2 HB Offline	Riser 2 has reported communication loss with one of its hall boards.	Check the hall board status menu for a hall board reporting 0% communication and check wiring.
1440	RIS3 HB Offline	Riser 3 has reported communication loss with one of its hall boards.	Check the hall board status menu for a hall board reporting 0% communication and check wiring.
1441	RIS4 HB Offline	Riser 4 has reported communication loss with one of its hall boards.	Check the hall board status menu for a hall board reporting 0% communication and check wiring.
1442	Shield Unknown	Shield error state is unknown.	Check wiring of power and network lines.
1443	Shield POR Rst	Shield is starting up after a standard reset event.	Check wiring of power and network lines.
1444	Shield BOD Rst	Shield is starting up after a brown out reset event.	Check wiring of power and network lines.
1445	Shield WDT Rst	Shield is starting up after a watchdog timer reset event.	Check wiring of power and network lines.
1446	Shield COM Group	Shield has not seen communication from the group network in 5 seconds.	Check wiring of power and network lines.
1447	Shield COM RPi	Shield has not seen communication from the RPi in 5 seconds.	Check wiring of power and network lines.
1448	Shield Failed RTC	Shield RTC has failed.	Replace on board battery.
1449	Shield UART OVF TX	Shield UART transmit buffer has overflowed.	Contact smartrise support.
1450	Shield UART OVF RX	Shield UART receive buffer has overflowed.	Contact smartrise support.
1451	Shield CAN OVF TX	Shield CAN transmit buffer has overflowed.	Contact smartrise support.
1452	Shield CAN OVF RX	Shield CAN receive buffer has overflowed.	Contact smartrise support.
1453	Shield CAN Bus Rst	Shield has detected a can bus reset event.	Check wiring of power and network lines.
1454	VIP Timeout	VIP process has been canceled due to excessive wait time.	NA

1455	Fire Virtual Remote Recall	Fire phase 1 has been activated by Virtual Input Fire Remote Recall	NA
1456	EMS2 Not At Recall	Car is on EMS phase 2, in a dead zone with doors open, but can't exit EMS 2 because it is not at the correct recall floor (the floor it was first called to on EMS phase 1).	Either move car to the correct EMS 1 recall floor or turn ON parameter EMS_ExitPh2AtAnyFloor (01-98) to allow exiting EMS phase 2 at any floor.
1460	Invalid Buffer Speed	While attempting to do the Buffer Test, Buffer speed is 0 or less than Learn Speed.	Set the Buffer Speed to a higher FPM (Contract Speed or above Learn Speed).
1461	Invalid Asc/Des Speed	While attempting to do the Asc/Des Overspeed test, Asc/Des speed is 0 or less than Learn Speed.	Set the Asc/Des speed to a higher FPM (Contract Speed or above Learn Speed).
1462	CEDES1 COMM	Primary CEDES camera channel 1 reporting a communication error.	Check wiring and network termination.
1463	CEDES1 READ	Primary CEDES camera channel 1 reporting a cannot read tape error.	Clean camera window, clean tape, check alignment.
1464	CEDES1 CLOSE	Primary CEDES camera channel 1 reporting a tape too close error.	Fix tape alignment.
1465	CEDES1 FAR	Primary CEDES camera channel 1 reporting a tape too far error.	Fix tape alignment.
1466	CEDES1 LEFT	Primary CEDES camera channel 1 reporting a tape too far left error.	Fix tape alignment.
1467	CEDES1 RIGHT	Primary CEDES camera channel 1 reporting a tape too far right error.	Fix tape alignment.
1468	CEDES1 CONTRAST1	Primary CEDES camera channel 1 reporting a contrast - service recommended read status.	Clean camera window, clean tape, check alignment.
1469	CEDES1 CONTRAST2	Primary CEDES camera channel 1 reporting a contrast - warning read status.	Clean camera window, clean tape, check alignment.
1470	CEDES1 CONTRAST3	Primary CEDES camera channel 1 reporting a contrast - stopped read status.	Clean camera window, clean tape, check alignment.
1471	CEDES1 CRC	Primary CEDES camera channel 1 failed CRC check.	Check wiring and network termination.
1472	CEDES2 COMM	Primary CEDES camera channel 2 reporting a communication error.	Check wiring and network termination.
1473	CEDES2 READ	Primary CEDES camera channel 2 reporting a cannot read tape error.	Clean camera window, clean tape, check alignment.
1474	CEDES2 CLOSE	Primary CEDES camera channel 2 reporting a tape too close error.	Fix tape alignment.
1475	CEDES2 FAR	Primary CEDES camera channel 2 reporting a tape too far error.	Fix tape alignment.
1476	CEDES2 LEFT	Primary CEDES camera channel 2 reporting a tape too far left error.	Fix tape alignment.
1477	CEDES2 RIGHT	Primary CEDES camera channel 2 reporting a tape too far right error.	Fix tape alignment.

1478	CEDES2 CONTRAST1	Primary CEDES camera channel 2 reporting a contrast - service recommended read status.	Clean camera window, clean tape, check alignment.
1479	CEDES2 CONTRAST2	Primary CEDES camera channel 2 reporting a contrast - warning read status.	Clean camera window, clean tape, check alignment.
1480	CEDES2 CONTRAST3	Primary CEDES camera channel 2 reporting a contrast - stopped read status.	Clean camera window, clean tape, check alignment.
1481	CEDES2 CRC	Primary CEDES camera channel 2 failed CRC check.	Check wiring and network termination.
1482	CEDES3 COMM	ETSL CEDES camera channel 2 reporting a communication error.	Check wiring and network termination.
1483	CEDES3 READ	ETSL CEDES camera channel 2 reporting a cannot read tape error.	Clean camera window, clean tape, check alignment.
1484	CEDES3 CLOSE	ETSL CEDES camera channel 2 reporting a tape too close error.	Fix tape alignment.
1485	CEDES3 FAR	ETSL CEDES camera channel 2 reporting a tape too far error.	Fix tape alignment.
1486	CEDES3 LEFT	ETSL CEDES camera channel 2 reporting a tape too far left error.	Fix tape alignment.
1487	CEDES3 RIGHT	ETSL CEDES camera channel 2 reporting a tape too far right error.	Fix tape alignment.
1488	CEDES3 CONTRAST1	ETSL CEDES camera channel 2 reporting a contrast - service recommended read status.	Clean camera window, clean tape, check alignment.
1489	CEDES3 CONTRAST2	ETSL CEDES camera channel 2 reporting a contrast - warning read status.	Clean camera window, clean tape, check alignment.
1490	CEDES3 CONTRAST3	ETSL CEDES camera channel 2 reporting a contrast - stopped read status.	Clean camera window, clean tape, check alignment.
1491	CEDES3 CRC	ETSL CEDES camera channel 2 failed CRC check.	Check wiring and network termination.
1492	DAD Offline	DAD unit has stopped communicating with the C4 car for 15 seconds.	Check group network wiring. Check that power is supplied to the DAD unit.
1521	Fire2 Hold	If the car is on fire phase 2 operation, and not at the recall floor. When the in car fire key switch is turned to the OFF position, the car will be put in a Fire Phase 2 Hold state if option Fire__Phase2ExitOnlyAtRecallFlr (01-0017) is ON. This alarm informs the user that they should move the car back to the recall floor before attempting to exit phase 2.	Return the car to the recall floor before exiting phase 2.
1522	RCL MOVE	The car has attempted to move to a recall floor but failed to start movement within 5 seconds.	This alarm is for diagnostics and does not require immediate Smartrise support unless accompanied by other recall related issues.

1524	LWD UNK	Serial load weighing device reporting an unknown error.	Check wiring of the serial load weighing device.
1525	LWD POR	Serial load weighing device reporting a powering on reset error.	Check serial load weighing device's power supply.
1526	LWD WDT	Serial load weighing device reporting a watchdog reset error.	Contact Smartrise support.
1527	LWD BOD	Serial load weighing device reporting a brown out reset error.	Check serial load weighing device's power supply.
1528	LWD COM SYS	Serial load weighing device reporting no communication with the C4 system detected.	Check wiring of serial load weighing device's CAN H and CAN L.
1529	LWD COM LOAD	Serial load weighing device reporting no communication detected with load cell processor.	Contact Smartrise support.
1530	LWD CAN BUS RST	Serial load weighing device reporting the can bus controller has reset.	Check wiring of serial load weighing device's CAN H and CAN L.
1531	LWD WD DISA	Serial load weighing device reporting the watchdog is disabled.	Check on board watchdog jumper.
1532	CAN1 OVF MRA	The CAN1 buffer on MRA has overflowed. Investigate CN1+/- network issues.	Check CN1 +/- network wiring and termination.
1533	CAN1 OVF CTA	The CAN1 buffer on CTA has overflowed. Investigate CN1+/- network issues.	Check CN1 +/- network wiring and termination.
1534	CAN1 OVF COPA	The CAN1 buffer on COPA has overflowed. Investigate CN1+/- network issues.	Check CN1 +/- network wiring and termination.
1535	Normal Limit Reached	The car has reached the normal limits of either the bottom or top door zone.	Move the car away from the Norma Limit.
1536	Touchscreen Offline	Communication has been lost between Touchscreen/COP and COP SRU.	Check wiring between Touchscreen/COP and COP SRU (C3H/C3L)
1537	HB Configuration	This alarm appears when Param. 01-0195 and Param. 01-0225 aren't equal.	Review parameter 01-0195 and 01-0225
1539	CC Button Stuck Active	A car call button is stuck active while not pressed down	Check whether any car call button is experiencing an input stuck on condition while the button is not being actively pressed.
1540	FINAL Limit Bypassed	BFL or TFL is bypassed	Check if BFL/TFL is connected directly to 120VAC and wire it through the BFL/TFL switch
1541	Phone Failure	Phone failure input has been activated.	Check phone failure input wiring.
1542	Phase Fault Input	Phase fault input has been activated on learn and manual classes of operation	Check Phase fault input

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SYSTEM CONFIGURATIONS

1 Adjusting Run Timers

Start and end-run timers are used to maximize the quality of the run for each car. The run timers may need to be adjusted depending on the start and stop sequence.

Acceleration Delay: Delays the pattern and holds the car at the min acceleration speed. This value can be increased to allow for the drive to generate pre-torque for motor control or can be set lower to lower start of run delay.

- **Adjustment Range:** 0 – 65535 ms
- **Default:** 100 ms on Automatic Operation and 0 ms on Inspection Operation
- **Unit:** ms

Brake Pick Delay: Adds a delay to the brake energizing phase of the start of run sequence. As the delay time increases, the brakes are deenergized for a longer period of time to allow time for the motor to energize and gain control of the car. As time decreases, the brakes energize faster to allow for a faster take off.

- If pick delay is too high, the motor can potentially run through the brake.
- If pick delay is too low, roll back may potentially occur if the car is not balanced or drive is tuned to handle the load.

- **Adjustment Range:** 0 – 65535 ms
- **Default:** 100 ms
- **Unit:** ms

Brake Drop Delay: Controls the amount of time the motor holds at zero speed prior to deenergizing the primary brake. If the delay is too soon, the brakes deenergize and car may stop under the brake causing a harsh stop. if the timer is set too long, the car may roll forward or back. This parameter should remain at 0 for most jobs unless there is a bit of overshoot in the motor.

- **Adjustment Range:** 0 – 3000 ms
- **Default:** 0 ms
- **Unit:** ms

Drive Drop Delay: Sets the stop sequence delay between dropping the brake and dropping drive control (zero speed). Value can be increased if the drive is dropping control too early and there is still movement after the brake drops. Lowering the value may cause unwanted movement at the end of the run.

- **Adjustment Range:** 0 – 3000 ms
- **Default:** 500 ms
- **Unit:** ms

Motor Drop Delay: Sets the stop sequence delay between dropping drive control and dropping the M contactor. This value should remain unchanged for most jobs. A high value may cause a delay in the stop sequence, a low value may cause drive faults due to the M contactor de-energizing while the motor is still energized.

- **Adjustment Range:** 0 – 65535 ms
- **Default:** 0 ms
- **Unit:** ms

B2 Drop Delay: Sets the stop sequence delay between dropping the secondary brake and dropping the B2 contactor. Timer set too low may cause the contactor to open under load, timer set too high will cause a longer stop sequence.

- **Adjustment Range:** 0 – 65535 ms
- **Default:** 500 ms
- **Unit:** ms

EBrake Drop Delay: Sets the stop sequence delay between reaching zero speed and dropping the secondary brake. A longer timer would allow the brake to remain open longer after the run. A short timer would drop the brake at least 1 second after zero speed command.

- **Adjustment Range:** 1000 – 65535 ms on Automatic Operation and 0 – 65535 ms on Inspection Operation
- **Default:** 1000 ms on Automatic Operation and 0 ms on Inspection Operation
- **Unit:** ms

Disable Ramp Zero: Disables ramping down command speed from leveling speed to 1 FPM prior to dropping a run. This option must be OFF for KEB drives due to the drive's internal slowdown profile. This parameter should remain off for most jobs.

- **Adjustment Range:** ON – OFF
- **Default:** OFF

Disable Hold Zero: Disables stop sequence check for encoder speed to read below 1 FPM prior to dropping the brake. Turning this option OFF may increase floor level accuracy. This option should remain off for most jobs.

- **Adjustment Range:** ON – OFF
- **Default:** OFF

Adjustment Procedure:

1. Navigate to **Main Menu | Setup | Run Timers**.

2. Select either **Start Timers** or **Stop Timers**:

   i. To adjust start-of-run timers, click **Start Timers** and proceed to Step 3.
   ii. To adjust end-of-run timers, click **Stop Timers** and proceed to Step 4.

3. For **Accel Delay** or **Brake Pick Delay**, select the desired timer and adjust the value. Proceed to Step 5.

4. For **Brake Drop Delay (Insp), Drive Drop Delay (Insp), Motor Drop Delay (Insp), B2 Drop Delay (Insp),** or **Emergency Brake Drop Delay (Insp)**, scroll to the desired timer and adjust the value.

5. Scroll right and press **Save**.

2 Floors/Releveling

This section outlines the procedures for configuring floor/releveling settings.

2.1 Short Floor Opening

A Short Floor is defined as a floor with a door zone that overlaps the door zone of the preceding floor. For example, if Floor 5 and Floor 6 have overlapping door zones, Floor 6 must be configured as a short floor.

Follow the steps below to set the Short Floor Opening:

1. Navigate to **Main Menu | Setup | Floors | Short Floor Opening**.
2. Select the short floor.
3. Scroll right and press **Save**.

2.2 Enable Releveling

Load weight and velocity are calibrated when setting the landing point of a car. If the position indicator detects a mismatch between the car's landing point and the designated landing floor, recalibration of the landing point is required.

Follow the steps below to Enable Releveling:

1. Navigate to **Main Menu | Setup | Floors | Enable Releveling**.
2. Set the enable releveling feature to **On**.
3. Scroll right and press **Save**.

2.3 Relevel Zone Size

The Dead Zone is a software-defined area at each floor where the car is considered level and releveling is not triggered.

- A zone size that is too small may cause repeated releveling (yo-yoing effect).
- A zone size that is too large may prevent proper releveling and allow the car to remain out of level.

Follow the steps below to set the Relevel Zone Size:

1. Navigate to **Main Menu | Setup | Floors | Relevel Zone Size**.
2. Set the relevel zone size.
3. Scroll right and press **Save**.

2.4 Releveling Delay

A configurable delay is applied before initiating the releveling process. This delay allows the car to settle at the floor before releveling is triggered.

Follow the steps below to set the Releveling Delay:

1. Navigate to **Main Menu | Setup | Floors | Releveling Delay**.
2. Set the releveling delay time.
3. Scroll right and press **Save**.

3 Doors

This section outlines the procedures for configuring door settings.

3.1 Door Symbols

The table below lists the symbols used to represent each door state.

Table 4: Door Symbols by State

<table>
<tr><th>State</th><th>Symbol</th></tr>
<tr><td>**Unknown**</td><td>“[?]”</td></tr>
<tr><td>**Closed**</td><td>“[|]”</td></tr>
<tr><td>**Closed With DC**</td><td>“>|<”</td></tr>
<tr><td>**Opening**</td><td>“[<>]”</td></tr>
<tr><td>**Opening With GSW**</td><td>“[<|>]”</td></tr>
<tr><td>**Opening With PHE**</td><td>“[<*>]”</td></tr>
<tr><td>**Open**</td><td>“[ ]”</td></tr>
<tr><td>**Open With DO**</td><td>“< >”</td></tr>
<tr><td>**Open With PHE**</td><td>“[*]”</td></tr>
<tr><td>**Open With PHE DO**</td><td>“< * >”</td></tr>
<tr><td>**Partially Open**</td><td>“[| |]”</td></tr>
<tr><td>**Partially Open with PHE**</td><td>“[|*|]”</td></tr>
<tr><td>**Closing**</td><td>“[><]”</td></tr>
<tr><td>**Closing With GSW**</td><td>“[>|<]”</td></tr>
<tr><td>**Closing With PHE**</td><td>“[>*<]”</td></tr>
<tr><td>**Nudging**</td><td>“[>!<]”</td></tr>
</table>

3.2 Control Doors

Doors can be manually controlled to open, close, or nudge as needed.

Follow the steps below to manually control the doors:

1. Navigate to **Main Menu | Setup | Door Setup | Control Doors**.
2. From the **CONTROL DOORS** menu:
   - Under the **CLOSE** option, issue a Door Close command to either the Front or Rear doors.
   - Under the **OPEN** option, issue a Door Open command to either the Front or Rear doors.
   - Under the **NUDGE** option, issue a Nudge command to the Front or Rear door.

3.3 Door Dwell Timer

The Door Dwell Timer defines the duration that car doors remain open when responding to car calls.

Follow the steps below to set the Door Dwell Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Door Dwell Timer**.
2. Set the time the doors stay open
3. Scroll right and press **Save**.

3.4 Hall Dwell Timer

The Hall Dwell Timer defines the duration in which the doors remain open when responding to hall calls.

Follow the steps below to set the Hall Dwell Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Hall Dwell Timer**.
2. Set the time the doors stay open.
3. Scroll right and press **Save**.

3.5 ADA Dwell Timer

The ADA (Americans with Disabilities Act) timer sets the duration that doors remain open when responding to calls from passengers with disabilities.

Follow the steps below to set the ADA Dwell Timer:

1. Navigate to **Main Menu | Setup | Door Setup | ADA Dwell Timer**.
2. Set the time the doors stay open.
3. Scroll right and press **Save**.

3.6 Hold Dwell Timer

The Hold Dwell Timer defines the duration in which the doors remain open after the Door Hold button has been pressed.

Follow the steps below to set the Hold Dwell Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Hold Dwell Timer**.
2. Set the time the doors stay open.
3. Scroll right and press **Save**.

3.7 Lobby Dwell Timer

The Lobby Dwell Timer defines the duration in which the doors remain open when responding to calls at the lobby.

Follow the steps below to set the Lobby Dwell Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Lobby Dwell Timer**.
2. Set the time the doors stay open.
3. Scroll right and press **Save**.

3.8 Door Stuck Timer

The Door Stuck Timer defines the duration for the doors to completely open or close before a fault is issued.

Follow the steps below to set the Door Stuck Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Door Stuck Timer**.
2. Set the time the doors completely close or open before a fault is issued.
3. Scroll right and press **Save**.

3.9 Door Nudge Timer

The Door Nudge Timer defines the duration after which the doors attempt to close if held open beyond a specified time. If set to zero, the nudge function is disabled.

Follow the steps below the set the Door Nudge Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Door Nudge Timer**.
2. Set the duration after which the door attempts to close once the door open period has elapsed.
3. Scroll right and press **Save**.

3.10 Rear Doors

Rear Doors can be configured as **enabled** or **disabled**. When enabled, rear doors open at designated landings.

Follow the steps below to enable Rear Doors:

1. Navigate to **Main Menu | Setup | Door Setup | Rear Doors**.
2. Set to **On**.
   - If set to **Off**, the rear doors do not open.
3. Scroll right and press **Save**.

3.11 PreOpening Distance

The Preopening Distance defines how far before the landing the doors begin to open.

- Door opening is limited by the door zone (DZ) signal.
- If the preopening distance is set outside the range of the DZ signal, the doors will begin opening as soon as the DZ becomes active.

Follow the steps below to set the Preopening Distance:

1. Navigate to **Main Menu | Setup | Door Setup | Preopening Distance**.
2. Set the distance from the landing at which the doors begin to open.
3. Scroll right and press **Save**.

3.12 DC On Run

The DC On Run feature activates the door close output while the car is in motion. This function is useful for door systems that require continuous pressure to prevent relaxation during travel.

Follow the steps below to set the DC On Run:

1. Navigate to **Main Menu | Setup | Door Setup | DC On Run**.
2. Set to **On** to enable the doors to close while the car is in motion.
3. Scroll right and press **Save**.

3.13 DC On Close

The DC On Close feature activates the door close output while the doors are in a closed state. This function is useful for door systems that require continuous pressure to prevent relaxation.

Follow the steps below to set the DC On Close:

1. Navigate to **Main Menu | Setup | Door Setup | DC On Close**.
2. Set to **On** to enable the doors to close.
3. Scroll right and press **Save**.

3.14 DO On Open

The DO On Open feature activates the door open output while the doors are in an open state. This function is useful for door systems that require continuous pressure to prevent relaxation.

Follow the steps below to set the DO On Open:

1. Navigate to **Main Menu | Setup | Door Setup | DO On Open**.

2. Set to **On** to enable the doors to open.

3. Scroll right and press **Save**.

3.15 Disable on CT Stop

All door outputs are disabled when the top CT Stop Switch is activated.

Follow the steps below to disable all door outputs:

1. Navigate to **Main Menu | Setup | Door Setup | Disable On CT Stop**.

2. Set to **On** to disable all door outputs.

3. Scroll right and press **Save**.

3.16 Disable on HA

All door outputs are disabled when the Hoistway Access (HA) is active.

Follow the steps below to disable all door outputs:

1. Navigate to **Main Menu | Setup | Door Setup | Disable On HA**.

2. Set to **On** to disable all door outputs.

3. Scroll right and press **Save**.

3.17 AT400 Doors

AT400 Doors should be enabled when configured with an AT400 door operator.

Follow the steps below to enable the AT400 interface:

1. Navigate to **Main Menu | Setup | Door Setup | AT400 Doors**.

2. Set to **On**.

3. Scroll right and press **Save**.

3.18 No Demand Doors Open

The No Demand Doors Open option allows the car doors to stay open while the car is idle.

Follow the steps below to set the doors to remain open while the car is idle:

1. Navigate to **Main Menu | Setup | Door Setup | No Demand DO**.

2. Set to **On** to keep the doors open while the car is idle.

3. Scroll right and press **Save**.

3.19 Jumper Timer

The Jumper Timer monitors whether the GSW or door locks remain jumped. If a jumper is detected beyond the configured time, a fault is triggered. The configured time is added to a fixed 1.6-second timeout before a fault occurs.

Follow the steps below to set the Jumper Timer:

1. Navigate to **Main Menu | Setup | Door Setup | Jumper Timer**.
2. Set the time allowed to verify that no jumpers are connected to the GSW or door locks.
3. Scroll right and press **Save**.

3.20 Jumper on DOL

The Door Open Limit (DOL) and Gate Switch (GSW) provide signals to indicate whether the door is open or closed. When Jumper on DOL is enabled, the controller checks for a jumper on the open DOL instead of the GSW.

Follow the steps below to enable Jumper Detection on DOL:

1. Navigate to **Main Menu | Setup | Door Setup | Jumper On DOL**.
2. Set to **On** to verify jumpers are detected on the DOL.
3. Scroll right and press **Save**.

3.21 Hourly Fault Limit

The Hourly Fault sets the maximum number of door faults permitted within a one-hour period before the car is taken out of service.

Follow the steps below to set the Hourly Fault Limit:

1. Navigate to **Main Menu | Setup | Door Setup | Hourly Fault Limit**.
2. Set the number of logged faults allowed per hour before the car goes out of service.
3. Scroll right and press **Save**.

3.22 Nudge – Buzzer Only

When enabled, the Nudge (NDG) output is disabled during nudging, and only the buzzer is activated.

Follow the steps below to only enable the Buzzer during Nudging:

1. Navigate to **Main Menu | Setup | Door Setup | Nudge – Buzzer Only**.
2. Set to **On**.
3. Scroll right and press **Save**.

3.23 Opening Time

The Opening Time defines the duration required for a door to go from fully closed to fully open. This value allows the controller to estimate door movement timing during preflight operation.

Follow the steps below to set the time to fully open the doors:

1. Navigate to **Main Menu | Setup | Door Setup | Opening Time**.

2. Set the time for the doors to fully open.

3. Scroll right and press **Save**.

3.24 Check Time

The Check Time defines the duration that doors must be verified as safe before the car is permitted to operate in automatic mode.

Follow the steps below to set the Check Time:

1. Navigate to **Main Menu | Setup | Door Setup | Check Time**.

2. Set the check time.

3. Scroll right and press **Save**.

3.25 Door Type

The Door Type defines the configuration of doors used at the front or rear landings. The controller can be configured with different door types for all front landings and all rear landings.

Available door types include:

- Automatic
- Freight
- Manual
- Swing

Follow the steps below to select the Front or Rear Door type:

1. Navigate to **Main Menu | Setup | Door Setup | Door Type (Front or Rear)**.

2. Select the type of door used on the front landing and the type of door used on the rear landing as applicable.

3. Scroll right and press **Save**.

3.26 Lock and CAM Timeout

Sets the timeout that accounts for the delay between CAM activation and Lock engagement on manual doors.

- If set to zero, the value defaults to 4 seconds.

Follow the steps below to set the lockout time for Lock and CAM:

1. Navigate to **Main Menu | Setup | Door Setup | Lock and CAM Timeout**.
2. Set the duration for the timeout.
3. Scroll right and press **Save**.

3.27 Retiring CAM

When set to ON, the CAM output controls hall interlocks. When set to OFF, interlocks are controlled by the door operator.

Follow the steps below to enable the Retiring CAM:

1. Navigate to **Main Menu | Setup | Door Setup | Retiring CAM**.
2. Set to **On**.
3. Scroll right and press **Save**.

3.28 Fixed CAM

When set to ON, the door uses a Fixed Hall CAM.

- The car is permitted to start a run without hall locks (hall closed contacts are still required).
- The car can move for the duration set in **08-137 (TimeoutLockAndCAM_100ms)** before a fault is triggered.
- If the value in 08-137 is set to zero, the default timeout is 4 seconds.

Follow the steps below to enable the Fixed CAM:

1. Navigate to **Main Menu | Setup | Door Setup | Fixed CAM**.
2. Set to **On**.
3. Scroll right and press **Save**.

3.29 Swing Lock GSW Timeout

Sets the timeout between GSW and Locks. If the value is zero, the timeout defaults to 500 ms.

Follow the steps below to set the Swing Lock Gate Timeout:

1. Navigate to **Main Menu | Setup | Door Setup | Swing Lock GSW Timeout**.
2. Set the timeout value.
3. Scroll right and press **Save**.

3.30 Swing Contacts Timeout

Sets the timeout between CAM activation and closed contact confirmation. If the value is zero, the timeout defaults to 500 ms.

Follow the steps below to set the Swing Contacts Timeout:

1. Navigate to **Main Menu | Setup | Door Setup | Swing Contacts Timeout**.
2. Set the timeout value.
3. Scroll right and press **Save**.

3.31 Disable DOB Rear

When set to ON, the rear DOB will be disabled.

Follow the steps below to disable the Rear DOB:

1. Navigate to **Main Menu | Setup | Door Setup | Disable DOB Rear**.
2. Set to **On**.
3. Scroll right and press **Save**.

3.32 Front Door State

The Front Door State displays the current operational state of the car when the front door is opening.

Follow the steps below to view the state of the Front Door:

1. Navigate to **Main Menu | Debug | View Debug Data**.
2. Press the right button.
3. Scroll up and right until code 043 is displayed.
4. View the state of the front door.

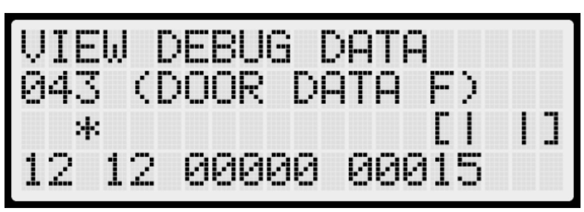

Figure 17: VIEW DEBUG DATA Menu – Front Door

The **Door State** menus display the following:

- **Front or Rear Door State:** Displays the current symbol representing the state of the door (see section **3.1 Door Symbols**).

- **Current Door Command:** The current door command being issued to the door module (see the table below).
- **Last Door Command:** The last door command issued to the door module (see the table below).
- **Current Door Timer:** A counter measuring the time elapsed before a door state transition. Each count equals 200 ms.
- **Door Timer Limit:** The threshold the Current Door Timer must reach before transitioning to the next door state. Each count equals 200 ms.

The table below lists the door command issued to the Door Module.

Table 5: Door Command Issued to the Door Module

Command Index	Door Command
0	None
1	OPEN UI REQUEST
2	OPEN IN CAR REQUEST
3	OPEN ADA MODE
4	OPEN SABBATH MODE
5	OPEN HALL REQUEST
6	OPEN HOLD REQUEST
7	OPEN CONSTANT PRESSURE
8	CLOSE
9	CLOSE CONSTANT PRESSURE
10	NUDGE
11	NUDGE CONSTANT PRESSURE
12	FAULT
13	OPEN HOLD DWELL REQUEST
14	OPEN LOBBY REQUEST
15	OPEN RECALL DWELL REQUEST

3.33 Rear Door State

The rear door state displays the current operational state of the car when the rear door is opening.

Follow the steps below to view the state of the rear door:

1. Navigate to **Main Menu | Debug | View Debug Data**.
2. Press the right button.
3. Scroll up and right until code 044 is displayed.
4. View the state of the rear door.

See section **3.32 Front Door State** for the door state, commands, and command descriptions.

4 Digital S-curve Technology ™ (U.S. Patent Pending)

There are eight standard options for adjusting the Digital S-curve Technology ™ (U.S. Patent Pending):

- **Acceleration:** Maximum acceleration for the profile.

- **Accel Jerk In:** How quickly the profile transitions from minimum acceleration speed to full acceleration- higher values result in a sharper start.
- **Accel Jerk Out:** How quickly the profile transitions from maximum acceleration to zero acceleration.
- **Deceleration:** Maximum acceleration for the profile.
- **Decel Jerk In:** How quickly the profile transitions from zero deceleration to maximum deceleration.
- **Decel Jerk Out:** How quickly the profile transitions from maximum deceleration to leveling speed.
- **Leveling Speed:** The speed at which the elevator levels to the floor.
- **Leveling Distance:** The stabilized distance the elevator travels before arriving at the destination floor.

  NOTE: Decel Jerk In and Decel Jerk Out are not available during Inspection Mode.

The following is a graphical image of the parameters that are being adjusted.

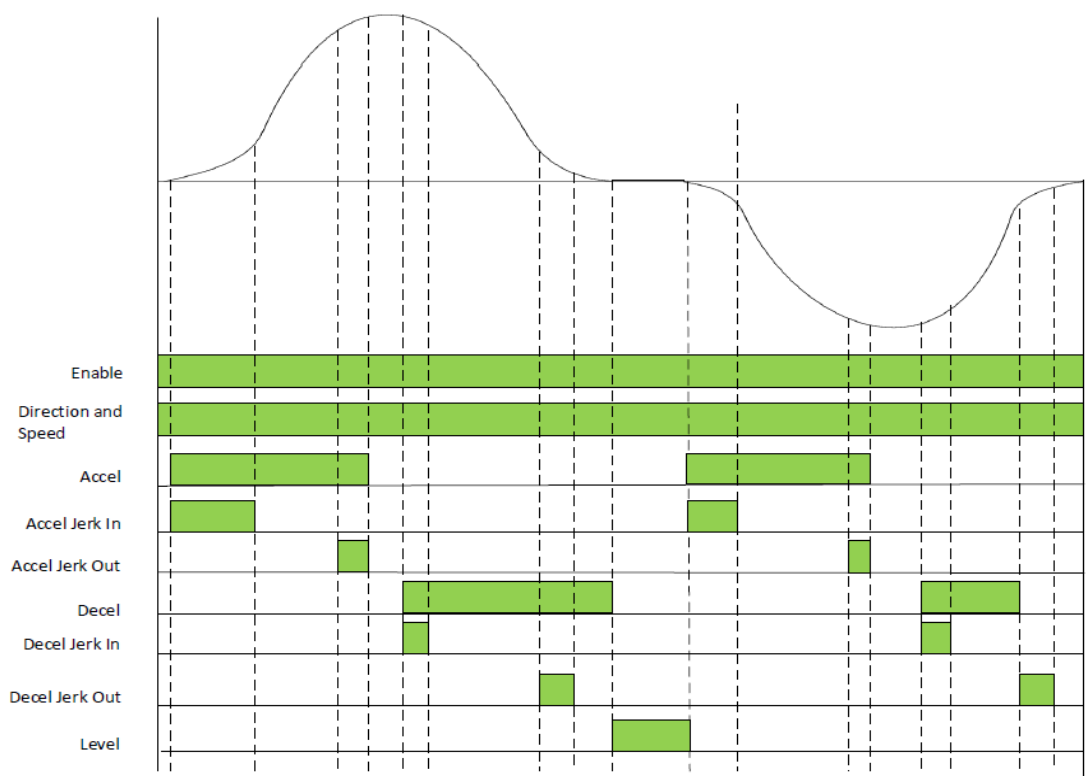

Figure 18: Graphical Representation of a Digital S-curve Technology ™ (U.S. Patent Pending)

4.1 Profile

There are 4 programmable profiles:

- **Normal Profile:** Used under normal operating conditions.

- **Inspection Profile:** Used when the system is placed on Inspection/Access and Construction operations.
- **Emergency Power Profile:** Used when the Emergency Power input is activated, indicating the car is running on generator power.
- **Short Profile:** Used when the minimum short distance is set.

4.1.1 Adjusting Digital S-curve Technology ™ (U.S. Patent Pending) Profile

All four profiles are adjusted in the same manner. To adjust the Digital S-curve Technology ™ (U.S. Patent Pending), the Normal Profile is displayed.

4.1.1.1 Acceleration

The Acceleration parameter is the rate at which the car reaches constant speed. The higher the acceleration value, the sharper the rate.

Example: With Contract speed set at 350 FPM (5.8 ft/s), and Acceleration set to 2 fps^2, the car will reach Contract speed in 2.9 seconds (this calculation does not allow for rounding). Each rounding corner will normally add about half of its rounding time to the time required to reach contract speed.

NOTE: Divide FPM by 60 to get fps^2.

- **Adjustment Range:** 1-8 fps^2.
- **Default:** 2 fps2
- **Unit of measure:** fps^2

The Acceleration parameter is also used to control the pattern ramp-up during relevel. Changing this parameter will change the rate at which respective rated speeds are attained for automatic run patterns and relevel patterns. A higher value will allow for higher speeds to be attained up to contract speed.

Follow these steps to configure the Acceleration:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Acceleration**.
2. Set the acceleration.
3. Scroll right and press **Save**.

4.1.1.2 Accel Jerk In

The Acceleration Jerk In parameter defines the transition from zero speed to full acceleration. As accel Jerk in increases, the profile transitions more quickly from starting to maximum acceleration. Larger values result in car occupants feeling a greater gravitational force when starting. With larger jerk values, the car reaches constant speed more rapidly since the pattern spends less time in rounding. This also results in achieving higher constant speeds up to contract speed.

- **Adjustment Range:** 0.3-25 fps^3.
- **Default:** 2 fps^3
- **Unit of measure:** fps^3

The exact amount of time spent in rounding depends on the acceleration rate. Rounding time is ‘acceleration ÷ initial jerk’ and should normally be adjusted between 0.6 to 1.3 seconds. Set a one second round by setting the jerk numerically equal to the acceleration. If the acceleration is 2 fps^2, an initial jerk value of 2 fps^3 will provide one second of initial rounding.

Follow these steps to configure the Accel Jerk In:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Accel Jerk In**.
2. Set the rate of transition from minimum acceleration speed to full acceleration.
3. Scroll right and press **Save**.

4.1.1.3 Accel Jerk Out

The Acceleration Jerk Out parameter determines how quickly the profile transitions from maximum to zero acceleration (constant velocity). As Accel Jerk Out increases, the profile transitions more quickly. Lower values provide greater comfort. Larger values result in a greater gravitational force felt in the car when attaining maximum speed. With larger jerk values, the pattern also spends less time in rounding and reaches constant speed sooner resulting in higher achieved speeds up to contract speed.

- **Adjustment Range:** 0.3-25 fps^3.
- **Default:** 2 fps^3
- **Unit of measure:** fps^3

The exact amount of time spent in rounding depends on the acceleration rate. The time is ‘acceleration ÷ jerk out’ and should normally be 0.6 to 1.3 seconds. Set a one second rounding time by setting the jerk numerically equal to the acceleration. If the acceleration is 2 fps^2, accel jerk out value of 2 fps^3 will give one second of rounding. Rounding should never take more than one half of the total time to reach constant speed.

Follow these steps to configure the Accel Jerk Out:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Accel Jerk Out**.
2. Set the rate of transition from maximum acceleration to zero acceleration.
3. Scroll right and press **Save**.

4.1.1.4 Deceleration

The Deceleration parameter defines the rate at which the car reaches leveling speed. The higher the deceleration value, the sharper the rate. For example, with Contract Speed set at 350 FPM (5.8 ft/s), and Deceleration set to 1 fps^2, the car will reach leveling speed in 5.8 seconds. This calculation is before rounding is considered. Each rounding corner will normally add about half of its rounding time to the time to reach contract speed.

- **Adjustment Range:** 1-8 fps^2.
- **Default:** 1 fps^3
- **Unit of measure:** fps^2

Follow these steps to configure the Deceleration:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Deceleration**.
2. Set the deceleration rate.
3. Scroll right and press **Save**.

4.1.1.5 Decel Jerk In

The Deceleration Jerk In parameter controls the softness of the transition from constant velocity to deceleration. Larger values resulting car occupants feeling a greater gravitational force when rounding into constant deceleration. With larger jerk values, the car reaches constant deceleration more rapidly; since the pattern spends less time in rounding reaches leveling speed sooner.

- **Adjustment Range:** 0.3-25 fps^3.
- **Default:** 2 fps^3
- **Unit of measure:** fps^3

The exact amount of time spent in rounding depends on the deceleration. Rounding time is 'deceleration ÷ deceleration' jerk in and should normally be adjusted between 0.6 to 1.3 seconds. Set a one second rounding time by setting the jerk numerically equal to the deceleration. If the deceleration is 2 fps^2, a deceleration jerk in value of 2 fps^3 will provide one second of deceleration rounding.

Follow these steps to configure the Decel Jerk In:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Decel Jerk In**.
2. Set the rate of transition from zero deceleration to maximum deceleration.
3. Scroll right and press **Save**.

4.1.1.6 Decel Jerk Out

The Deceleration Jerk Out parameter controls the softness of the transition from deceleration to leveling speed. Larger values resulting car occupants feeling a greater gravitational force when rounding into constant leveling speed. With larger jerk values, the car reaches leveling speed more rapidly; since the pattern spends less time in rounding, it reaches leveling speed sooner.

- **Adjustment Range:** 0.3-25 fps^3.
- **Default:** 0.8 fps^3
- **Unit of measure:** fps^3

Deceleration Jerk out defines the transition from approach deceleration to Leveling Speed. As Jerk out increases, the profile transitions more quickly from Deceleration to Leveling Speed. This value should be kept low to avoid high tracking errors.

Follow these steps to configure the Decel Jerk Out:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Decel Jerk Out**.
2. Set the rate of transitions from maximum deceleration to leveling speed.

3. Scroll right and press **Save**.

4.1.1.7 Leveling Distance

The Leveling Distance parameter determines the stabilized distance the elevator will travel before arriving at the destination floor. The car will travel at leveling speed for the set distance before ramping to zero.

- **Adjustment Range:** 0-24.4in.
- **Default:** 1 inch
- **Unit of measure:** inches

Increasing this parameter will allow car to run at leveling speed for the programmed distance. A higher value allows the car to correct any speed overshoot but increases leveling time. A value too low may cause overshoot of the floor due to motor tracking issues and a harsh stop under the brake.

Follow these steps to configure the Leveling Distance:

1. Navigate to **Main Menu | Setup | S-Curve | Normal Profile | Leveling Distance**.

2. Set the stabilized distance the elevator travels before arriving at the destination floor.

3. Scroll right and press **Save**.

4.2 Quick Stop Deceleration

The quick stop deceleration is the rate the controller uses to slow down when an NTS event is triggered. This rate is independent of what the drive does and is a backup to the drive. Setting the value too high would cause the car to decelerate at a very high and aggressive rate, and too low of a value might cause the car to not be able to reach NTS speed in time.

NOTE: The drive always takes the lower commanded speed, so if the controller Quick Stop Decel rate is more aggressive than the drives internal decel rate, the drive will command the controller's rate.

- **Adjustment Range:** 0 -25.5 fps^2.
- **Default:** 8.0 fps^2
- **Unit of measure:** fps^2

Follow these steps to configure the deceleration rate during Quick Stop Deceleration:

1. Navigate to **Main Menu | Setup | S-Curve | Quick Stop Decel**.

2. Set the rate of deceleration during a quick stop.

3. Scroll right and press **Save**.

4.3 Leveling Deceleration

Leveling Deceleration is the rate of deceleration from leveling speed to 0. This value should not need to be changed from the maximum set value. A value too low may cause inconsistent floor counts.

- **Adjustment Range:** 0 -25.5 fps^2.
- **Default:** 25.5 fps^2
- **Unit of measure:** fps^2

Follow these steps to configure the Leveling Deceleration:

1. Navigate to **Main Menu | Setup | S-Curve | Leveling Decel**.
2. Set the rate of deceleration during leveling.
3. Scroll right and press **Save**.

4.4 Short Run Minimum Distance

The short run minimum distance sets the distance below where short run profiles are used instead of normal profiles.

Follow these steps to configure the minimum distance during a short run:

1. Navigate to **Main Menu | Setup | S-Curve | Short Run Min Dist**.
2. Set the distance the car travels down during a short run.
3. Scroll right and press **Save**.

4.5 Destination Offset

Destination offsets are used to make up for motor tracking issues when making floor levels. The destination offset up is set to start slowing down the car prior to the landing when moving in the up direction. The destination offset down is set to start slowing down the car prior to the landing when moving in the down direction. Best practice is to set all floor levels in one direction (approaching floor in the up direction for example) and then set offset approaching the floor from the other direction (setting Destination Offset Down in this example) to offset floor level discrepancy in different approach directions.

NOTE: If destination offset is set to a value higher than 26 counts, it will cause the car to relevel. Releveling offset will need to be set to match the destination offset in that situation.

Follow these steps to configure the Destination Offset:

1. Navigate to **Main Menu | Setup | S-Curve | Dest. Offset Up** or **Down**.
2. Set the offset needed.
3. Scroll right and press **Save**.

4.6 Relevel Offset

Releveling offsets are used to make up for motor tracking issues when releveling up or down to a floor. This is active when the car is leveling up to or down to a floor.

NOTE: If destination offset is set to a value higher than 26 counts, it will cause the car to relevel. Releveling offset will need to be set to match the destination offset in that situation.

Follow these steps to configure the Relevel Offset:

1. Navigate to **Main Menu | Setup | S-Curve | Relevel Offset Up** or **Down**.
2. Set the offset needed.
3. Scroll right and press **Save**.

4.7 Drive Adjustment

Contract Speed Tracking – Drive adjustments are as follows:

- **F5 drive:** see **Drive Startup KEB** for proper drive setup.
    - Set parameter LS02 High Speed to the car contract speed. US06 sets the max value that LS02 can be. LS02 can be set to any value that is less than or equal to US06.
    - Check LC03/LC04 proportional gain values are not set too low. Lower values (less than 1000) may result in loose control and overshoot of the command speed.
    - Check LC08/LC09 Integral gain values are not set too high. High values can result in pulsations during acceleration, deceleration, or at contract speed. Lower values result in the speed to lag command.

- **HPV900:** See **Drive Startup HPV900** for proper drive setup.
    - Set Contract Car SPD to the car contract speed in the A1 menu.
    - Verify Contract MTR SPD in the A1 matches the motor manufacturer name plate. If the car is traveling too fast then reduce this value, if too slow then increase it.
    - Increase Inertia in the A1 menu.

- **M1000:** See **Drive Startup Manual M1000** for proper drive setup.
    - Set Contract Car SPD to the car contract speed in the A1 menu.
    - Verify Contract MTR SPD in the A1 matches the motor manufacturer name plate. If the car is traveling too fast then reduce this value, if too slow then increase it.
    - Increase Inertia in the A1 menu.

- **DSD412:** See **Drive Startup Manual DSD412** for proper drive setup.
    - Set Rated Car Speed #17 to the car contract speed.
    - Verify Motor RPM #11 matches the motor manufacturer name plate. If the car is traveling faster than commanded then reduce this value, if too slow then increase it.
    - Check Per-Unite Inertia #41 value is not set too low which will result in velocity overshoot. If value is set too high, it will result in velocity undershoot.

Motor Current Limiting – If running out of motor current near the end of Acceleration becomes a problem, as is evidenced by the AC motor current on the drive keypad during a full load UP operation:

- **F5 Drive**: set parameter LC.30 Maximum Torque = 300 (3x LF.17). This will automatically adjust the current limit.
    - Magnetek – Increase A1 > Mtr Torque Limit.
    - If this does not help, reduce the value of Acceleration. Another possibility is to decrease the value of accel jerk out so that there is a smooth transition from maximum acceleration to contract speed.

- Slope of Acceleration / Deceleration – Ideally, the slope of acceleration should be equal to or slightly greater than the slope of deceleration. To get approximately equal acceleration and deceleration speeds in a system where tracking accuracy is very good, Acceleration can be equal to Deceleration. If tracking is less accurate, set Acceleration greater than Deceleration to get the same effective rate of deceleration as acceleration.

Approaching the Floor – Final approach to the floor can be customized in many ways. If tracking accuracy is very good, set the following:

- **Leveling Speed:** the desired leveling speed. A typical number is from 2 to 5. See section **11.7 Leveling Speed**.

- **Leveling Distance:** the distance of choice. A typical number is from 1 to 2. See section **4.1.1.7 Leveling Distance**.

If ideal tracking is not obtained, begin to introduce values in the Leveling Speed and Distance that allows for molding the shape of the last few inches of approach.

Increase in Deceleration Rate – If observing an increase of deceleration as the floor is approached, it is generally due to inaccurate tracking.

- Improve tracking or lower the value of the Deceleration parameters.

4.8 Controlling Initial Start of Car Motion

Gearless application may experience rollback at the start of car motion. To control rollback at the start of the run:

- Implement pre-torque to the system.
- Make brake adjustments.
- Apply synthetic speed torque.
- Adjust run timers.

4.8.1 Pre-Torque Adjustments

For jobs with the Smartrise serial LWD, load information can be used to provide pre-torquing of the motor to accommodate for load changes and prevent rollback. See **C4 Load Weighing Device** for calibrating the LWD. If the configuration at the job site is using the Omega LWD, see the **Omega Load Weighing Device User Manual** for calibrating the LWD.

4.8.2 Brake Adjustment

Brake adjustments can be done to allow for rollback control using slow picking of the brake. Increase the brake ramp time in the Brake Setup menu to allow for slow picking of the brake and for the sheave to move under the brake. See section **5 Brakes** to adjust the brake.
Brake pick delay in the run timers can also be increased to allow time for the drive to hold the car at zero speed.

4.8.3 Synthetic Speed Torque

Adjust the value of the MIN ACCEL Speed in the Speed menu to a value between 2 and 4 to overcome rollback. Use this in conjunction with the brake adjustments for best ride quality. The Min Releveling Speed value might also need to be adjusted. Force the car to relevel to verify no roll back occurs during releveling operation.

NOTE: This speed is applied instead of 0 speed at the beginning of the run. While it will help overcome rollback, it also causes the car to jerk forward when traveling in the direction of least resistance.

5 Brakes

Smartrise sets the brake pick and hold settings in the factory prior to shipping – prior to running, verify the data. For the default or factory set data see the **C4 Controller 01 Getting Started** sheet.

The table below lists an example of the data settings.

Table 6: Example of Data Settings

Car	Doors	DR Breaker Voltage	Brake Pick	Brake Hold	Brake Ohm	Brake Amp
1	1	120	90	45	44	2.05

If the actual brake data is different from the specifications, use the UI menu to adjust the data configuration.

Smartrise provides the following options for a secondary brake:

- Secondary Brake board
- Rope gripper

The configuration for the Secondary Brake board is the same as the Primary Brake board, but the Secondary Brake board must be enabled.

Follow these steps to enable the Secondary Brake board:

1. Navigate to **Main Menu | Setup | Brake Setup | Secondary Setup | Enable Secondary**.
2. Set to **On**.
3. Scroll right and press **Save**.

5.1 Pick Voltage

The pick voltage is the set voltage at which the brakes are released.

Follow these steps to configure the Pick Voltage:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | Pick Voltage**.
2. Set the pick voltage.
3. Scroll right and press **Save**.

5.2 Hold Voltage

The hold voltage is the set voltage to hold the car in place once the brake has been released.

Follow these steps to configure the Hold Voltage:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | Hold Voltage**.

2. Set the hold voltage.

3. Scroll right and press **Save**.

5.3 Relevel Voltage

The relevel voltage is set to where the brake slightly lifts which allows for the sheave to turn during the releveling process.

Follow these steps to configure the Relevel Voltage:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | Relevel Voltage**.

2. Set the relevel voltage.

3. Scroll right and press **Save**.

5.4 Pick Time

The pick time is the hold time for the pick voltage before transitioning to hold voltage.

Follow these steps to configure the Pick Time:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | Pick Time**.

2. Set the time to switch from pick voltage to hold voltage.

3. Scroll right and press **Save**.

5.5 Ramp Time

Ramp time is the time it takes for the brakes to ramp up to full pick voltage during normal operation. The ramp time provides a smooth transition without any jerking motion prior to releasing the brakes. The primary brake is used during normal operation and inspection while the secondary brake is used only during normal operation.

Follow these steps to configure the Ramp Time:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup**.

2. Setting the ramp time:

   i. To set the ramp time for the primary brake, go to step 3.
   ii. To set the ramp time for the secondary brake, go to step 4.

3. Select **Ramp Time – Auto**. Proceed to step 5.

4. Select **Ramp Time**.

5. Enter the time to fully release the brakes.

6. Scroll right and press **Save**.

5.6 Ramp Time – Inspection

Ramp Time Inspection is the time it takes for the brakes to ramp up to full pick voltage during inspection Mode. Only the primary brakes are used during Inspection Mode; therefore, there is no setting on the Secondary Brake menu options during inspection.

Follow these steps to configure the Ramp Time – Inspection:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary Setup | Ramp Time - Inspection**.

2. Set the time to fully release the brakes during Inspection.

3. Scroll right and press **Save**.

5.7 Ramp Time-Relevel

The relevel ramp time is the time it takes for the brakes to ramp up to releveling voltage. The delay prevents a sudden jerking motion and damage to the equipment.

Follow these steps to configure the Ramp Time – Relevel:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | Ramp Time - Relevel**.

2. Set the time for the brakes to ramp up during releveling.

3. Scroll right and press **Save**.

5.8 BPS NC

The Brake Pick switch is set to normally closed. However, the Brake Pick switch may need to be set where the switch may need to be bypassed.

- **Primary Brake –** The switch may be bypassed when the car is in Construction Mode.
- **Secondary Brake –** The secondary brake may be a rope gripper which in turn does not use a Brake Pick switch.

Follow these steps to set the BPS to Normally Closed:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | BPS NC**.

2. Set to **On**.

3. Scroll right and press **Save**.

5.9 BPS-Stop Sequence

The BPS Stop Sequence monitors the primary brakes motion sequence operation. The monitoring system can be enabled or disabled.

Follow these steps to disable the BPS Stop Sequence:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary Setup | BPS – Stop Sequence**.

2. Set to **On**.

3. Scroll right and press **Save**.

5.10 BPS-Stuck Active

The BPS Stuck Active checks if the BPS switch is constantly picked during a run.

Follow these steps to enable monitoring of the BPS Stuck Active signal:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | BPS – Stuck Active**.

2. Set to **Off**.

3. Scroll right and press **Save**.

5.11 BPS-Stuck Inactive

The BPS Stuck Inactive checks if the BPS switch is constantly dropped when the car is stopped.

Follow these steps to enable monitoring of the BPS Stuck Inactive signal:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup | BPS – Stuck Inactive**.

2. Set to **Off**.

3. Scroll right and press **Save**.

5.12 BPS-Timeout

The BPS Timeout is the maximum amount of time for the BPS to remain picked or dropped. If the BPS remains in the same state in either situation after the allotted time, a fault occurs.

Follow these steps to configure the BPS Timeout:

1. Navigate to **Main Menu | Setup | Brake Setup | Primary** or **Secondary Setup**.

2. Setting the BPS timeout:

   i. To set the BPS timeout for the primary brake, go to step 3.
   ii. To set the BPS timeout for the secondary brake, go to step 4.

3. Select **BPS Timeout**. Proceed to step 5.

4. Select **BPS2 Timeout**.

5. Enter the maximum time the BPS can remain open or closed before a fault occurs.

6. Scroll right and press **Save**.

5.13 Disable Latching Faults

When enabled, the primary and secondary brake faults shall not latch. When set to disabled and a fault occurs, a fault will be displayed. To reset the fault, reset the MR board.

Follow these steps to Enable Latching Faults:

1. Navigate to **Main Menu | Setup | Brake Setup | Disable Latching Faults**.
2. Set to **Off**.
3. Scroll right and press **Save**.

6 Car Data

Car Data provides important dispatching and car status information shared among grouped cars. This data is useful for debugging dispatching issues.

6.1 Car Data Overview

Follow the steps below to view the car status overview:

1. Navigate to **Main Menu | Debug | Car Data**.
2. View the Car Data Overview Status.

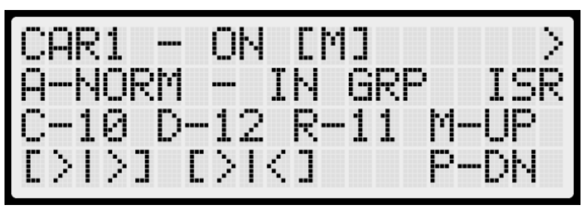

Figure 19: Car Data Overview Status

The **Car Data Overview** menu includes the following:

- **Car ID:** Displays the ID number of the selected car (valid range: 1–8).
- **Online Status:** Displays **ON** if the car is online and broadcasting on the group network; otherwise, displays **OFF**.
- **Master Status:** Displays **[M]** if acting as the master dispatcher for the group.
- **Class and Mode of Operation:** Displays the class of operation as a single-letter abbreviation, followed by the mode of operation.
- **In Group Status:** Displays **IN GRP** if the car is in group and currently accepting Hall Calls.
- **ISR Flags:** Displays flags based on current conditions.
  - **[I]** Car is idle and can perform a direction change.

- **[S]** Car is stopped or decelerating.
- **[R]** Door reopening is blocked in preparation for a run.
- **[.]** Default state if no condition above is met.

♦ **Current Landing:** Displays current landing number, prefixed with **C-**.

♦ **Destination Landing:** Displays destination landing number, prefixed with **D-**.

♦ **Reachable Landing:** Displays estimated closest reachable landing number, prefixed with **R-**. This landing is calculated based on the cars ability to slow down with current Digital S-curve Technology ™ (U.S. Patent Pending) values.

♦ **Motion Status:** Displays motion status.

- **M-UP:** Moving up
- **M-DN:** Moving down
- **M-ST:** Stationary

♦ **Direction Priority:** Displays direction priority.

- **P-UP:** Serving Up Calls
- **P-DN:** Serving Down Calls

Refer to the table below for a list of Car Status codes.

Table 7: Car Status Codes

Code	Description
Unknown	
U-UNK	Unknown
Manual	
M-UNK	Unknown
M-INV	Invalid
M-NON	None
M-CT	Car Top Inspection
M-IC	In-Car Inspection
M-HA	Hoistway Access
M-MR	Machine Room Inspection
M-PIT	Pit Inspection
M-LND	Landing Inspection
M-CON	Construction
M-HAT	Hoistway Access (Top)
M-HAB	Hoistway Access (Bottom)
Learn	
L-UNK	Unknown
L-INV	Invalid
L-NON	None
L-G$_2$T	Go to A Terminal
L-RB$_1$	L-SSD (code)
L-RB$_2$	L-LSD (code)

L-BHA	Bypass Term Limits
L-RHA	Hold UP/DN To Start
L-LB$_1$	L-SSU (code)
L-LB$_2$	L-LSU (code)
L-LHU	Learning BTM To TOP
L-LHD	Learning TOP To BTM
L-EBP	L-LHU (code)
L-INV	L-LHD (code)
L-CMP	Learn Complete
Automatic	
A-UNK	Unknown
A-NON	None
A-NORM	Normal
A-FIR$_1$	Fire Phase 1
A-FIR$_2$	Fire Phase 2
A-EMS$_1$	EMS Phase 1
A-EMS$_2$	EMS Phase 2
A-ATTD	Attendant
A-INDP	Independent Service
A-SEIS	Seismic
A-CWDR	Counterweight Derail
A-SABB	Sabbath
A-EPWR	Emergency Power
A-EVAC	Invalid
A-OOS	Out of Service
A-C2L	Car To Lobby
A-BATR	Battery Rescue
A-PRS1	Prison Transport 1
A-PRS2	Prison Transport 2
A-R2F	Recall To Floor
A-WG	Wander Guard
A-HUGS	HUGS
A-ER2F	Emergency Recall
A-TEST	Test Mode
A-WIND	Wind Operation
A-FLD	Flood Operation
A-SWING	Swing Operation
A-CUST	Custom Operation
A-ACTS	Code: A-SHOO
A-MARS	Marshal Mode
A-VIP	VIP Mode
A-T2T	Normal Terminal To Terminal
A-F2F	Normal Floor To Floor
A-RAND	Normal Random
A-STI	Shunt Trip Mode

6.2 Hall Call Mask Status

Hall Call Mask Status displays the status of Front, Rear, and Latchable Hall Calls.

Follow the steps below to view the Hall Call Mask Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. View the Hall Mask Status.

Figure 20: Hall Mask Status

The table below lists the Hall Mask Status definitions.

Table 8: Hall Mask Status Definitions

Hall Mask Code	Definition	Description
HMF	Front Hall Mask	Marks which Front Hall Calls can be taken
HMR	Rear Hall Mask	Marks which Rear Hall Calls can be taken
HML	Latchable Hall Mask	Marks which Hall Calls can be latched

6.3 Opening Map Status

The Opening Map Status displays which landings have Front or Rear openings enabled.

6.3.1 Front Opening Map Status

Follow the steps below to view the Front Opening Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. View the Front Opening Map Status.

Figure 21: Front Opening Map Status

- **Opening Map Front 1 (OMF1)** represents the hex value for the first 32 landings that have Front openings.
- **OMF2** represents landings 33-64 with Front openings.

- **OMF3** represents landings 65-96 with Front openings.

6.3.2 Rear Opening Map Status

Follow the steps below to view the Rear Opening Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. View the Rear Opening Map Status.

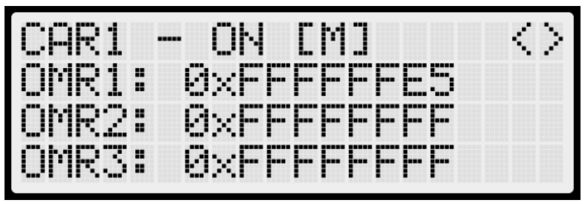

Figure 22: Rear Opening Map Status

- **Opening Map Rear 1 (OMR1)** represents the hex value for the first 32 landings that have Rear openings.
- **OMR2** represents landings 33-64 with Rear openings.
- **OMR3** represents landings 65-96 with Rear openings.

6.4 Security Map Status

The Security Map Status displays the status of secured landings.

6.4.1 Front Security Map Status

Follow the steps below to view the Front Security Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. View the Front Security Map Status.

Figure 23: Front Security Map Status

- **Security Map Front 1 (SMF1)** represents the hex value for the first 32 Front openings that have security enabled.
- **SMF2** represents Front openings 33-64 with security enabled.
- **SMF3** represents Front openings 65-96 with security enabled.

6.4.2 Rear Security Map Status

Follow the steps below to view the Rear Security Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. View the Rear Security Map Status.

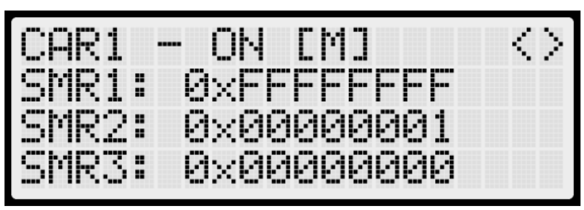

Figure 24: Rear Security Map Status

- **Security Map Rear 1 (SMR1)** represents the hex value for the first 32 Rear openings that have security enabled.
- **SMR2** represents Rear openings 33-64 with security enabled.
- **SMR3** represents Rear openings 65-96 with security enabled.

6.5 Linked Hall Mask Status

Linked Hall Call Masks are used to tie together the lamps of separate Hall Buttons. Each paired mask must be set to the sum of the Hall Call Masks for the corresponding paired boards. The parameter addresses for the paired Hall Call Masks are located at **08-0178 to 08-0181**. For a full list of parameters, refer to the **C4 Parameter List**.

The **Linked Hall Mask Status** indicates which Hall Board outputs are tied together.

Follow the steps below to view the Linked Hall Mask Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. View the Linked Hall Mask Status.

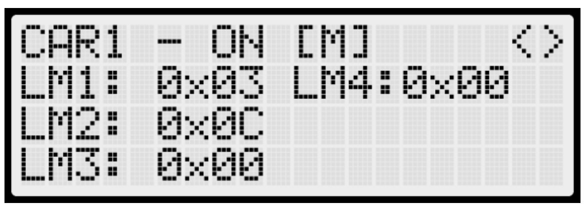

Figure 25: Linked Hall Mask Status

- **First Mask (LM1)** pairs the Front Hall Call boards.
- **Second Mask (LM2)** pairs the Rear Hall Call boards.

6.6 Hall Security Map Status

The Hall Security Map identifies the landings that require Hall Security Contacts.

- **Front Hall Security Map** parameters are located at **16-0940 to 16-0945**.
- **Rear Hall Security Map** parameters are located at **16-1035 to 16-1040**.

For a complete list of parameters, refer to the **C4 Parameter List**.

6.6.1 Front Hall Security Map Status

Follow the steps below to view the Front Hall Security Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.

5. From the Rear Opening Map Status, press the right button.

6. From the Front Security Map Status, press the right button.

7. From the Rear Security Map Status, press the right button.

8. From the Linked Hall Mask Status, press the right button.

9. View the Front Hall Security Map Status.

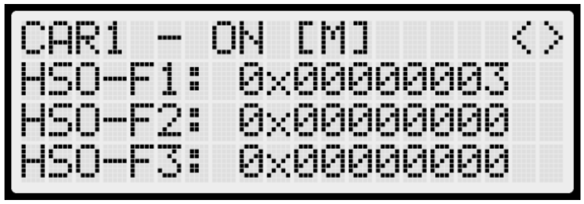

Figure 26: Front Hall Security Map Status

6.6.2 Rear Hall Security Map Status

Follow the steps below to view the Rear Hall Security Map Status:

1. Navigate to **Main Menu | Debug | Car Data**.

2. From the Car Data Overview Status, press the right button.

3. From the Hall Mask Status, press the right button.

4. From the Front Opening Map Status, press the right button.

5. From the Rear Opening Map Status, press the right button.

6. From the Front Security Map Status, press the right button.

7. From the Rear Security Map Status, press the right button.

8. From the Linked Hall Mask Status, press the right button.

9. From the Front Hall Security Map Status, press the right button.

10. View the Rear Hall Security Map Status.

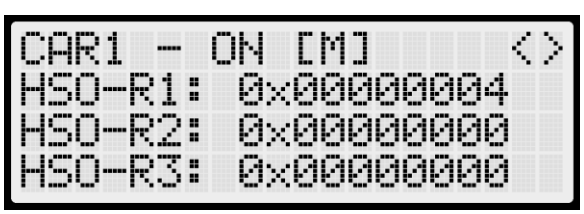

Figure 27: Rear Hall Security Map Status

6.7 Hall Security Mask Status

The Hall Security Mask displays the status of all enabled secured Hall Calls.

The **Hall Security Bypass Status (BYP)** is **ON** when Hall Security is disabled. This occurs if the **Enable Hall Security** option is **OFF** (parameter **01-0138**) or if the **Enable All HC** input is programmed and active.

For a complete list of parameters, refer to the **C4 Parameter List**.

Follow the steps below to view the Hall Security Mask Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. View the Hall Security Mask Status.

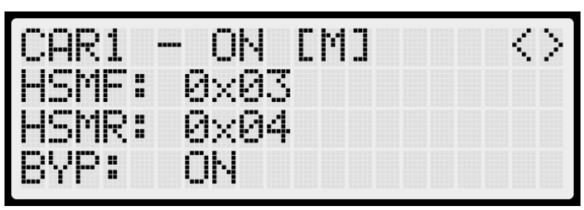

Figure 28: Front and Rear Hall Security Mask Status

6.8 Dispatching Timer Status

The Dispatching Timer Status displays the configured amount of time a car has to respond to Hall Calls before being removed from the group.

Follow the steps below to view the Dispatching Timer Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.

3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. View the Dispatching Timer Status.

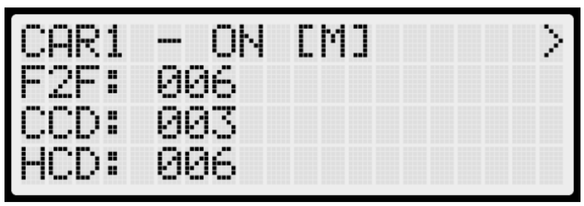

Figure 29: Dispatching Timers Status

- **F2F**: Estimated worst-case Floor-to-Floor travel time. Auto generated based on Normal Profile Digital S-curve Technology ™ (U.S. Patent Pending) settings.
- **CCD**: Duration that doors remain open when responding to Car Calls (see section **3.3 Door Dwell Timer**).
- **HCD**: Duration that doors remain open when responding to Hall Calls (see section **3.4 Hall Dwell Timer**).

6.9 VIP Flags

VIP Flags indicate the status of VIP Mode for the car within the group.

Follow the steps below to view the VIP Flags:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.

7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. From the Dispatching Timer Status, press the right button.
13. View the VIP Flag Status.

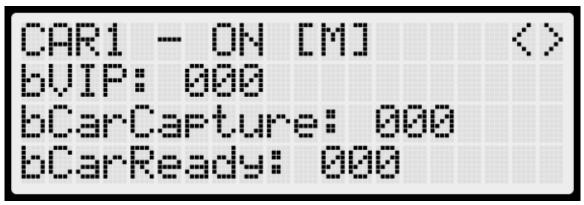

Figure 30: VIP Flags Status

- **bVIP:** Set to 1 when VIP Mode is enabled.
- **bCarCapture:** Set to 1 when the car is being captured in preparation for a VIP call assignment.
- **bCarReady:** Set to 1 when the car is captured and ready to receive a VIP call assignment.

6.10 VIP Masks

VIP Masks define which Hall Riser functions the car can serve while in VIP Mode.

Follow the steps below to view the VIP Masks:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.

10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. From the Dispatching Timer Status, press the right button.
13. From the VIP Flag Status, press the right button.
14. View the VIP Mask Status.

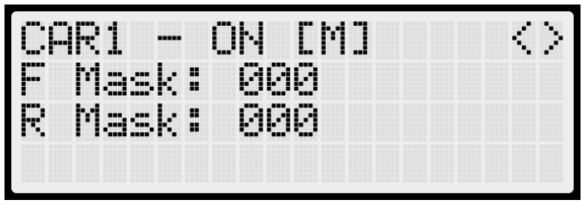

Figure 31: VIP Mask Status

6.11 Car Call Enable Bitmap Status

Displays the Car Call Enable signals – signals that bypass Car Call Security – active on the car in bitmap form. Each bit represents either a front or rear opening for a specific group landing.

6.11.1 Front Car Call Enable Bitmap Status

Follow the steps below to view the Front Car Call Enable Bitmap Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. From the Dispatching Timer Status, press the right button.

13. From the VIP Flag Status, press the right button.
14. From the VIP Mask Status, press the right button.
15. View the Front Car Call Enable Bitmap Status.

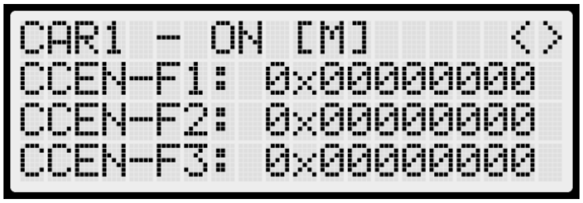

Figure 32: Front Car Call Enable Bitmap Status

6.11.2 Rear Car Call Enable Bitmap Status

Follow the steps below to view the Rear Car Call Enable Bitmap Status:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. From the Dispatching Timer Status, press the right button.
13. From the VIP Flag Status, press the right button.
14. From the VIP Mask Status, press the right button.
15. From the Front Car Call Enable Bitmap Status, press the right button.
16. View the Rear Car Call Enable Bitmap Status.

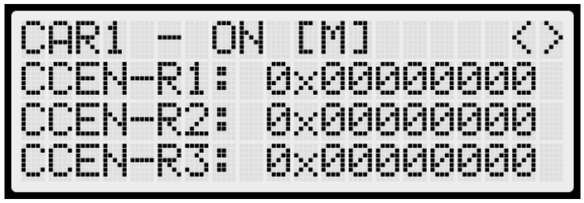

Figure 33: Rear Car Call Enable Bitmap Status Menu

6.12 Emergency Medical Call Mask and Landing

The Emergency Medical Call Mask and Landing displays the status of the car designated for emergency service within the group.

Follow the steps below to view the Emergency Medical Call Mask and Landing:

1. Navigate to **Main Menu | Debug | Car Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, press the right button.
5. From the Rear Opening Map Status, press the right button.
6. From the Front Security Map Status, press the right button.
7. From the Rear Security Map Status, press the right button.
8. From the Linked Hall Mask Status, press the right button.
9. From the Front Hall Security Map Status, press the right button.
10. From the Rear Hall Security Map Status, press the right button.
11. From the Hall Security Mask Status, press the right button.
12. From the Dispatching Timer Status, press the right button.
13. From the VIP Flag Status, press the right button.
14. From the VIP Mask Status, press the right button.
15. From the Front Car Call Enable Bitmap Status, press the right button.
16. From the Rear Car Call Enable Bitmap Status, press the right button.
17. View the Emergency Medical Call Mask and Landing Status.

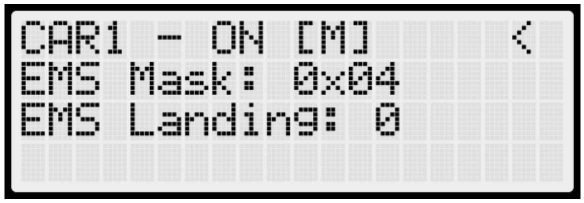

Figure 34: Emergency Medical Call Mask and Landing

- **EMS Mask**: Hall Mask indicating which Hall Risers are interpreted as Emergency Medical Calls by the car.
- **EMS Landing**: Displays the assigned landing for an Emergency Medical Call. A value of “1” represents the lowest landing served by the group; “0” indicates no assignment.

7 Hall Network

The Hall Network is a group of Hall boards connected by a CAN bus.

7.1 CAN Bus

Each Hall Board communicates over a CAN bus with a Riser Board located in the Machine Room. The figure below illustrates a standard CAN network. For optimal performance, cable stub lengths should be minimized, and only Node 1 and Node 4 on the CAN bus line should be terminated.

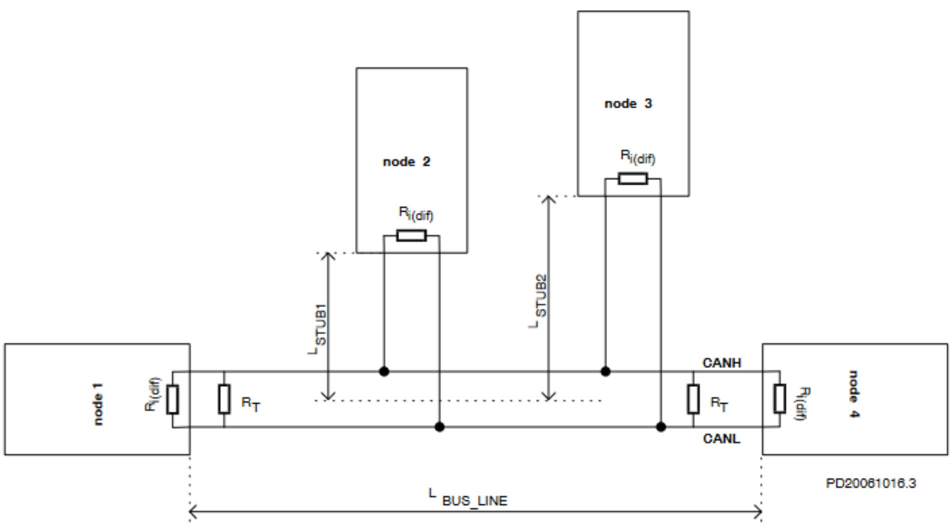

Figure 35: Standard CAN Bus[1]

Termination: The first and last boards on each CAN network must be terminated.

- **Example 1:** A single set of Hall Buttons is wired to Riser Board 1.
  - Terminate CAN2 on the Riser Board and the bottom landing Hall Board.

[1] See https://www.onsemi.com/pub/Collateral/AND8376-D.PDF for CAN Bus with Unterminated Stubs

- **Example 2:** Two sets of Hall Buttons are both wired to Riser Board 1.

  - Terminate the bottom landing Hall Board in each set.
  - Do not terminate CAN2 on the Riser Board.
  - For tall buildings, the second set of Hall Boards may need to be split off and connected to a second Riser Board. In that case, terminate both networks as described in Example 1.

  NOTE: Most C4 PCBs use a jumper for CAN bus termination. On Hall Boards, termination is set by switching **DIP 10** or **DIP 12** to **ON**, depending on the Hall Board type.

Stub Length: A CAN bus should resemble a long trunk line with only short stub connections, each kept under 1 foot in length.

Connections: Use a twisted pair over CAT5 splitters whenever possible. For networks with more than 20 Hall Boards, provide additional power and REF connections to prevent voltage drops.

7.2 Hall Board Status

If issues arise due to Hall Calls, begin by checking the Hall Board Status from the UI menu. This display provides key information on each board's communication status, error state, connected Riser board, I/O configuration, and DIP switch addressing.

To verify the Hall Board status, navigate to **Main Menu | Status | Hall Board Status**.

Figure 36: Hall Board Status

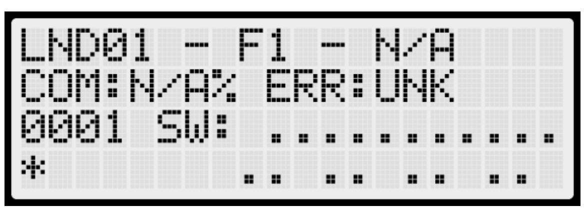

Figure 37: Uninitialized Hall Board Status

The Hall Board Status screen displays the following:

- Indicates it belongs to the first function range of Hall boards.
- Shows connection to Riser board 1 in the machine room.
- Confirms no active errors.
- Both Up and Down buttons are currently being pressed.
- Both Up and Down lamps are currently lit.

NOTE: Once communication is established with a Hall board, if communication is later lost, the COM Status will show **0%** instead of **N/A**.

7.3 Hall Security Mask

The Hall Security Mask defines which Hall Call Masks require a hall security contact. Each bit in the mask corresponds to a specific Hall Board Function ID. The mask is divided into front and rear sections – HSMF and HSMR – based on the Hall Rear Door Mask (see section **7.10 Hall Rear Door Mask**). The Hall Security Mask parameter is **08-0208**. For a full list of related parameters, refer to the **C4 Parameter List**.

Follow the steps below to set Hall Security Mask:

1. Navigate to **Main Menu | Setup | Group Setup | Hall Security Mask**.
2. Turn **ON** the Hall board functions that need to be secured.
3. Scroll right and press **Save**.

7.4 Hall Security Map

The Hall Security Map defines which landings require a hall security contact. The configuration from the master group car (the car with the lowest Group Car ID) is used for control. However, all cars should be configured with the same Hall Call Security parameters to ensure continuity if the master group car is taken offline. The front Hall Security Map parameters range from **16-0940** to **16-0945**, and the rear parameters range from **16-1035** to **16-1040**. For a complete list of parameters, refer to the **C4 Parameter List**.

Follow these steps to set the Hall Security Map:

1. Navigate to **Main Menu | Setup | Group Setup | Hall Security Map (Front or Rear)**.
2. Scroll and select the Front or Rear landings that require security access. Setting the landing to ON enables security for that landing.
3. Scroll right and press **Save**.

7.5 Hall Security Status

The Hall Security Status screen displays the current status of the Hall Boards involved in Hall Call Security.

Follow these steps to view the Hall Security Status:

1. Navigate to **Main Menu | Status | Hall Security Status**.
2. Scroll up or down to view the floors that are set for Hall Security.

7.6 Hall Call Mask

The Hall Call Mask must be configured to enable standard Hall Calls for a car. This setting is located at addresses **08-0209** to **08-0212**. The values for these addresses vary based on the Function IDs of the installed Hall Boards.

For a complete list of parameters, refer to the **C4 Parameter List**.

Follow these steps to set the Hall Call Mask:

1. Navigate to **Main Menu | Setup | Group Setup | Hall Call Mask**.
2. Scroll and select the function to be enabled.
3. Scroll right and press **Save**.

To determine the correct value for the address, refer to the table below and add the corresponding values of each Function ID serviced by the car.

The table below provides the Hall Board 10-DIP Hall Mask Mapping switch settings.

Table 9: Hall Board 10 DIP Hall Mask Mapping Switch Settings

DIP Switch 7-8-9	Function ID	Mask Value (Decimal)
OFF-OFF-OFF	1	1
ON-OFF-OFF	2	2
OFF-ON-OFF	3	4
ON-ON-OFF	4	8
OFF-OFF-ON	5	16
ON-OFF-ON	6	32
OFF-ON-ON	7	64
ON-ON-ON	8	128

The table below provides the Hall Board 12-DIP Hall Mask Mapping switch settings.

Table 10: Hall board 12 DIP Hall Mask Mapping Switch Settings

DIP Switch 8-9-10	Function ID	Mask Value (Decimal)
OFF-OFF-OFF	1	1
ON-OFF-OFF	2	2
OFF-ON-OFF	3	4
ON-ON-OFF	4	8
OFF-OFF-ON	5	16
ON-OFF-ON	6	32
OFF-ON-ON	7	64
ON-ON-ON	8	128

7.7 Linked Hall Buttons

To illuminate two sets of Hall buttons simultaneously, the **Paired Hall Mask** parameter must be configured. This parameter must be set on each Group Car. It is located at address **08-0178**, and its value depends on the Function IDs of the paired Hall Boards.

If additional pairings are needed, addresses **08-0179** through **08-0181** are available for use.

For a complete list of parameters, refer to the **C4 Parameter List**.

Example 1: Pairing Hall Boards with Function ID 0 (DIP 7, 8, and 9 OFF) and Function ID 2 (DIP 7 ON), set **08-0178** to **x03** (3 in decimal).

Example 2: Pairing Hall Boards with Function ID 3 (DIP 8 ON) and Function ID 4 (DIP 7 and 8 ON), set **08-0178** to **x0C** (12 in decimal).

Follow these steps to set the Linked Hall Mask:

1. Navigate to **Main Menu | Setup | Group Setup | Linked Hall Mask**.
2. Scroll and select the Hall boards within the group that are linked.
3. Scroll right and press **Save**.

7.8 Hall Medical Mask

The Hall Medical Mask configures Hall Boards to recognize Emergency Medical Service (EMS) calls. These calls direct the nearest car to enter Emergency Medical Service mode.

The procedure below outlines how to configure the Hall Medical Mask.

Consider the following two scenarios:

Case I: If the Hall Medical Rear Door Mask is not activated, and a front Hall Call is initiated from a medical floor with both front and rear openings, both doors will open.

Case II: If the Hall Medical Rear Door Mask is activated, and a front Hall Call is initiated from a medical floor with both front and rear openings, only the front door will open.

1. Navigate to **Main Menu | Setup | Group Setup| Hall Medical Mask**.
2. Scroll and select which cars are set for emergency service calls.
3. Scroll right and press **Save**.

7.9 Hall Medical Rear Door Mask

The Hall Medical Rear Door Mask configures Hall Boards to support Rear Emergency Medical Service calls. These calls place the nearest car into EMS mode of operation.

The following procedure explains how to configure the Hall Medical Rear Door Mask. Consider the two scenarios below:

Case I: If the Hall Medical Rear Door Mask is not activated, and a front Hall Call is initiated from a medical floor with both front and rear openings, both the Front and Rear doors will open.

Case II: If the Hall Medical Rear Door Mask is activated, and a front Hall Call is initiated from a medical floor with both front and rear openings, only the front door will open.

1. Navigate to **Main Menu | Setup | Group Setup| Hall Medical Rear Door Mask**.
2. Scroll and select which cars are set for Rear emergency service calls.
3. Scroll right and press **Save**.

7.10 Hall Rear Door Mask

The Hall Rear Door Mask specifies which Hall Boards are configured to handle Rear door calls. Boards designated for rear door calls will operate in latched mode, allowing the call to remain active until it is properly serviced.

Follow these steps to set the Hall Rear Door Mask:

1. Navigate to **Main Menu | Setup | Group Setup | Hall Rear Door Mask**.
2. Scroll and select the Hall Calls that service landings where only the Rear door opens.
3. Scroll right and press **Save**.

7.11 Split Group Masks

When different Hall Masks and EMS Masks are required, the Override Group Hall Mask input must be activated. This causes the cars within the group to split, allowing separate EMS and Hall Masks to be applied.

- The **Override Group Hall Mask (08-0146)** replaces the standard **Hall Call Mask (08-0209)**.
- The **Override Group Medical Mask (08-0273)** replaces the standard **Hall Medical Mask (08-0210)**.

7.12 Errors

The following errors may be reported:

- **UNK:** The board is uninitialized.
- **NONE:** The board has no errors.
- **POR:** The board is starting up.
- **WDT:** The board stalled and triggered a reset.
- **BOR:** The board power was insufficient and triggered a reset.
- **COM:** The board is not receiving commands.
- **DIP:** The board has the same address as another board on the network.
- **BUS:** The board is resetting its CAN transceiver.

7.13 Compatibility

The C4 Hall Board and the V2 Hall Board are not compatible. C4 Hall Boards are equipped with 10 or 12 DIP switches depending on the configuration, while V2 Hall Boards have 8 DIP switches.

8 Serial Hall Lanterns

Serial Hall Lantern boards – interchangeable with Hall Call boards – connect to the CAN network of the MR board. Because these boards share the same hardware and software, this manual collectively refers to them as Hall Boards.

8.1 CAN BUS

The Serial Hall Lantern boards follow the same CAN bus guidelines as standard Hall Boards.

- By default, the CAN network is terminated at the MR board.
- Terminate only the lowest landing's Serial Hall Lantern board.
- If a CE Driver board is present on the network, its CAN termination must be disabled.

8.2 Hall Lantern Masks

To enable communication with Serial Hall Lantern boards, configure the Hall Lantern Mask for the car:

- **Address**: 08-0213
- **Value**: Determined by adding the values corresponding to each Function ID of the installed Serial Hall Lantern boards.
- Use Table 9 and Table 10 from section **7.6 Hall Call Mask** to find the appropriate Function ID mask values.

Rear Hall Lantern Mask:

- **Address**: 32-0036
- Use this setting to configure Serial Hall Lantern boards to serve rear calls.
- Add the mask values of all Function IDs that serve as rear calls, using Table 9 from section **7.6 Hall Call Mask** as a reference.

For a full list of parameters, refer to the **C4 Parameter List**.

8.3 Serial Hall Lantern Status

If issues occur with any Serial Hall Lantern board, begin by checking the Hall Lantern Status via the **Status** menu.

The **Status** menu displays:

- Board communication status
- Error states
- I/O activity
- DIP switch address settings

To verify Hall Lantern status, navigate to **Main Menu | Status | Hall Lantern Status**.

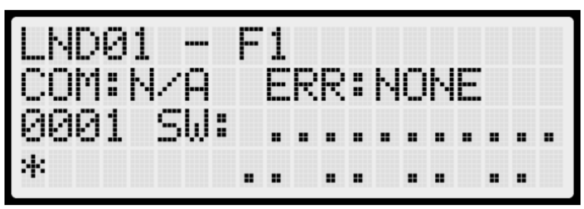

Figure 38: Hall Lantern Status

Figure 39: Uninitialized Hall Lantern Status

9 Miscellaneous

The controller is bound by the set parameters. The miscellaneous parameters are the general parameters to control other variables within the elevator.

9.1 Bypass Term Limit

The Bypass Terminal Limit allows the car to travel beyond the configured terminal limits when operating in Inspection mode.

Follow these steps to bypass the terminal limits:

1. Navigate to **Main Menu | Setup | Miscellaneous | Bypass Term Limits**.
2. Set Bypass Terminal Limits to **On**.
3. Scroll right and press **Save**.

9.2 Enable Construction Box

When the Enable Construction Box parameter is set to ON, the CUP and CDN inputs on the MR Board are used to move the car. Ensure that 24 VDC is wired directly to the CEN input. If not, 24 VDC must be jumped to CEN.

Follow these steps to enable the Construction Box:

1. Navigate to **Main Menu | Setup | Miscellaneous | Enable Construction Box**.
2. Set to **On** to enable the construction box.
3. Scroll right and press **Save**.

9.3 Maximum Run Time

The maximum run time is the longest duration the car is allowed to travel from one floor to another.

Follow the steps below to set the Maximum Run Time:

1. Navigate to **Main Menu | Setup | Miscellaneous | Maximum Run Time**.
2. Set the maximum time the car runs before a fault is issued.
3. Scroll right and press **Save**.

9.4 CT Insp. Req. IC

An IC Inspection can be performed prior to CT Inspection if required.

Follow these steps to enable the CT Inspection:

1. Navigate to **Main Menu | Setup | Miscellaneous | CT Insp. Req. IC**.

2. Scroll and select **On** to enable CT Inspection.

3. Scroll right and press **Save**.

9.5 Dis. IdleTrvArrow

When set to ON, CE travel arrows display the car's current direction of motion. When set to OFF, the arrows indicate both the car's motion direction and its arrival direction after completing a run.

Follow these steps to disable the Travel Arrow:

1. Navigate to **Main Menu | Setup | Miscellaneous | Disable IdleTrvArrow**.

2. Scroll and select **On** to disable the direction arrow.

3. Scroll right and press **Save**.

9.6 Enable Latches Car Calls

When set to ON, the car call button latches a car call when pressed.

Follow these steps to enable Latching a Car Call:

1. Navigate to **Main Menu | Setup | Miscellaneous | Enable Latches CC**.

2. Scroll and select **On** to enable car call latching.

3. Scroll right and press **Save**.

9.7 En. 3 Digit PI

The 3-Digit PI setting enables floor labels to display up to three characters, replacing the default two-character format.

Follow these steps to enable the 3 Digit PI:

1. Navigate to **Main Menu | Setup | Miscellaneous | Enable 3 Digit PI**.

2. Scroll and select **On** to enable 3-digit PI.

3. Scroll right and press **Save**.

9.8 Default

The default settings are the controller's original settings prior to any modifications.

9.8.1 Default Floors

This setting restores the original Learned Floors when selected.

Follow the steps below to Default Floors:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default Floors**.

2. Select **Yes** to default floors.

   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

9.8.2 Default S-Curve

This setting restores the original Digital S-curve Technology ™ (U.S. Patent Pending).

Follow the steps below to Default S-Curve:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default S-Curve**.

2. Select **Yes** to default floors.

   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

9.8.3 Default Run Timers

This setting restores the original Run Timers when selected.

Follow the steps below to Default Run Timers:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default Run Timers**.

2. Select **Yes** to default run timers.

   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

9.8.4 Default I/O

This setting restores the original Inputs and Outputs (I/O) when selected.

Follow the steps below to Default I/O:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default I/O**.

2. Select **Yes** to default I/O.

   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

9.8.5 Default Other

This setting restores other parameters within the system back to the original factory settings.

Follow the steps below to Default Other Parameters:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default Other**.
2. Select **Yes** to default other parameters.
   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

9.8.6 Default Factory

This setting restores the original factory settings when selected.

Follow the steps below to Default Factory:

1. Navigate to **Main Menu | Setup | Miscellaneous | Default | Default Factory**.
2. Select **Yes** to default factory.
   - To cancel without restoring, select **No**.

Once the system completes the process, the **DEFAULTING PARAMS** menu will display "**Parameters Defaulted**".

10 NTS/ETS

The NTS and Emergency Terminal Stop (ETS) points are automatically calculated by the system based on the Digital S-curve Technology ™ (U.S. Patent Pending) values that are programmed in the S-curve menu.

There are three profiles that have NTS and ETS points calculated based on their Digital S-curve Technology ™ (U.S. Patent Pending) values:

- **P1:** Normal profile
- **P3:** Emergency profile
- **P4:** Short profile

NTS points are generated after the hoistway is learned and as a result, during Construction Mode or before the hoistway is learned, NTS may get triggered. See section **7 Set Up Drive** to bypass NTS on the drive while in Construction Mode. An NTS signal, located near the drive connections on the MR board, can be either a 24 VDC source or sink. The NTS signal is in source mode when the LED is lit and in sink mode when the LED is not lit. The LED will change states when NTS status changes. The functionality may change based on the job and can be inverted using parameter 01-0067. If the elevator is moving at NTS speed, this may be the cause. For the list of parameters, see the **C4 Parameter List**. Parameters are provided to reduce the sensitivity of ETS and NTS tripping points.

10.1 ETS ODL

The ETS ODL is used to reduce the sensitivity of the ETS trip points. Increase this value by 3-5 points to reduce nuisance tripping if elevator tracking is off at the terminal floors.

Follow these steps to configure the ETS ODL:

1. Navigate to **Main Menu | Setup | Safety | ETS ODL**.
2. Set the ETS debounce limit.
3. Scroll right and press **Save**.

10.2 NTS POS

The controller calculates 8 NTS points for each profile based on pattern data. P1 is the normal profile, P3 is emergency profile, and P4 is short profile. The menu displays the points as an offset from the terminal floor, the larger the number, the further from the terminal floor the point is. P1-01 is the closes point to the terminal landing and P1-08 is the furthest. The values can be modified for testing reasons but are automatically recalculated on board reset and Digital S-curve Technology ™ (U.S. Patent Pending) parameter updates.

Follow these steps to view the NTS position for each learned point:

1. Navigate to **Main Menu | Setup | NTS | NTS Pos**.
2. Select the NTS profile position being set and set the NTS position as needed.
3. Scroll right and press **Save**.

10.3 NTS VEL

The controller calculates eight NTS points for each profile based on pattern data. P1 is the normal profile, P3 is emergency profile, and P4 is short profile. The menu displays the trip speed for each point at the corresponding position viewed in the NTS POS menu. The values can be modified for testing reasons but are automatically recalculated on board reset and Digital S-curve Technology ™ (U.S. Patent Pending) parameter updates.

Follow these steps to view the NTS velocity threshold for each point:

1. Navigate to **Main Menu | Setup | NTS | NTS Vel**.
2. Select the Velocity profile being set and set the NTS velocity as needed.
3. Scroll right and press **Save**.

10.4 ETS Offset

The ETS Offset sets the position offset from generated NTS trip points to be applied to ETS trip points. Units are in 0.2 counts per inch (CPI). This can be used if the ETS points need to be shifted further from the terminal landing.

Follow these steps to configure the ETS Offset:

1. Navigate to **Main Menu | Setup | Safety | ETS Offset**.
2. Set the offset needed.
3. Scroll right and press **Save**.

11 Timers

Timers are utilized for energy conservation.

11.1 Fan & Light Timer

The Fan and Light Timer sets the duration the fan and lights remain on.

Follow these steps to set the Fan & Light Timer:

1. Navigate to **Main Menu | Setup | Miscellaneous | Fan & Light Timer**.
2. Set the fan and light timer.
3. Scroll right and press **Save**.

11.2 External Fan Timer

The External Fan Timer sets the duration the fan and lights remain on while the car is idle.

Follow these steps to set the External Fan Timer:

1. Navigate to **Main Menu | Setup | Miscellaneous | External Fan Timer**.
2. Set the external fan timer.
3. Scroll right and press **Save**.

11.3 Arrival Update Time

The Arrival Update Time sets the time interval to update lantern outputs before floor arrival.

Follow these steps to set the Arrival Update Time:

1. Navigate to **Main Menu | Setup | Miscellaneous | Arrival Update Time**.
2. Set the time to update lantern outputs.
3. Scroll right and press **Save**.

12 Safety

Safety measures are taken to prevent personal injury and to protect the equipment.

12.1 Speed Deviation

Speed Deviation is used to detect cases where the car is commanded to move, but no movement is detected within a configured duration.

12.1.1 Threshold

A designated threshold is set between the detected and expected car speed. If the detected variance is greater than the set threshold, a fault will be triggered.

Follow these steps to configure the Speed Deviation Threshold:

1. Navigate to **Main Menu | Setup | Safety | Speed Deviation | Threshold**.
2. Set the threshold.
3. Scroll right and press **Save**.

12.1.2 Timeout

A designated timeout monitors Speed Deviation. If the car is commanded to move but movement is not detected within this predefined period, a fault will be triggered.

Follow these steps to configure the Speed Deviation Timeout:

1. Navigate to **Main Menu | Setup | Safety | Speed Deviation | Timeout**.
2. Set the timeout threshold.
3. Scroll right and press **Save**.

12.1.3 Offset

A designated offset is set between the actual and expected percentage at which the car travels. If the detected variance is greater than the set offset, a fault will be triggered.

Follow these steps to configure the Speed Deviation Offset:

1. Navigate to **Main Menu | Setup | Safety | Speed Deviation | Offset**.
2. Set the offset.
3. Scroll right and press **Save**.

12.2 Traction Loss

Traction loss is used to detect the difference between the variation of the actual and expected loss of traction of the car.

12.2.1 Threshold

A designated threshold is set between the detected and expected traction loss of the car.

Follow these steps to configure the Traction Loss Threshold:

1. Navigate to **Main Menu | Setup | Safety | Traction Loss | Threshold**.
2. Set the threshold.
3. Scroll right and press **Save**.

12.2.2 Timeout

A designated timer is set between the detected and expected traction loss of the car.

Follow these steps to configure the Traction Loss Timeout:

1. Navigate to **Main Menu | Setup | Safety | Traction Loss | Timeout**.
2. Set the timeout.
3. Scroll right and press **Save**.

12.2.3 Offset

A designated offset is set between the detected and expected percentage of the traction loss of the car.

Follow these steps to configure the Traction Loss Offset:

1. Navigate to **Main Menu | Setup | Safety | Traction Loss | Offset**.
2. Set the offset.
3. Scroll right and press **Save**.

12.3 Lock Clip

Lock Clip Time is the duration during which the controller ignores an open hall lock condition. This helps prevent intermittent interlock faults.

Follow these steps to configure the Lock Clip Time:

1. Navigate to **Main Menu | Setup | Safety | Lock Clip**.
2. Set the desired time value.
3. Scroll right and press **Save**.

12.4 Inspection ODL

Inspection speed is the speed the car travels while in Inspection Mode. When the speed of the car is greater than the normal inspection speed, an inspection overspeed fault occurs. The debounce limit is set to give the brakes time to slow down the car to the maximum normal inspection speed or below. If the speed of the car is still greater than the normal inspection speed, a fault occurs.
Follow these steps to configure the Inspection ODL:

1. Navigate to **Main Menu | Setup | Safety | Inspection ODL.**
2. Set the Inspection debounce limit.
3. Scroll right and press **Save**.

12.5 Door Open ODL

The door open overspeed debounce limit prevents the doors from opening when the car is falling over 150 fpm.

Follow these steps to configure the Door Open ODL:

1. Navigate to **Main Menu | Setup | Safety | Door Open ODL.**
2. Set the door open debounce limit.
3. Scroll right and press **Save**.

12.6 SFP Debounce Limit

The safety processor (SFP) debounce limit sets a delay when a number of minimum events happen at once.

Follow these steps to configure the SFP Debounce Limit:

1. Navigate to **Main Menu | Setup | Safety | Inspection**.
2. Set the SFP debounce limit.
3. Scroll right and press **Save**.

12.7 General ODL

The General Overspeed Debounce Limit (ODL) defines the distance for miscellaneous limits.

Follow these steps to configure the General ODL:

1. Navigate to **Main Menu | Setup | Safety | General ODL**.
2. Enter the general debounce limit.
3. Scroll right and press **Save**.

12.8 NTS ODL

The NTS ODL reduces the sensitivity of the NTS trip points. Increase this value by 3–5 units to help reduce nuisance tripping if the elevator is tracking is off at the terminal floors.

Follow these steps to configure the NTS ODL:

1. Navigate to **Main Menu | Setup | Safety | NTS ODL**.
2. Enter the NTS debounce limit.
3. Scroll right and press **Save**.

12.9 Construction ODL

Construction speed is the speed the car travels while in construction mode. When the speed of the car is greater than the normal construction speed, a construction overspeed fault occurs. The debounce limit is set to give the brakes time to slow down the car to the maximum normal construction speed or below. If the speed of the car is still greater than the normal construction speed, a fault occurs.

Follow these steps to configure the Construction ODL:

1. Navigate to **Main Menu | Setup | Safety | Const. ODL.**
2. Set the Inspection Construction overspeed debounce limit.
3. Scroll right and press **Save**.

12.10 EBrake On Overspeed

The emergency brake on overspeed (ODL) enables the emergency brake for general overspeed faults.

Follow these steps to enable/disable the Ebrake ODL:

1. Navigate to **Main Menu | Setup | Safety | Ebrake On Overspeed**.
2. Enable or disable the emergency brake overspeed.
3. Scroll right and press **Save**.

12.11 Disable Construction Overspeed

Disable construction overspeed enables or disables the construction overspeed settings.

Follow these steps to enable/disable the Construction Overspeed:

1. Navigate to **Main Menu | Setup | Safety | Disable Construction Overspeed**.
2. Set the Disable Construction Overspeed to On or Off.
3. Scroll right and press **Save**.

12.12 ETSL

During normal conditions, the normal terminal stopping device stops the car at a certain landing within a set speed and distance. In case of emergencies where the normal terminal stopping device fails, the emergency terminal stopping device stops the car according to the set parameters within the reduced stroke buffer.

12.12.1 Enable ETSL

The ETSL enables or disables the emergency terminal safety limit.

Follow these steps to enable ETSL:

1. Navigate to **Main Menu | Setup | Safety | ETSL | Enable ETSL**.
2. Set to **On**.
3. Scroll right and press **Save**.

12.12.2 Reduced Stroke Buffer

A reduced stroke buffer is a speed limiting device used in case of emergencies. These options need to be set only if the speed rating of the buffer installed is below the elevator contract speed.

Follow these steps to verify the speed and distance for the reduced stroke buffer:

1. Navigate to **Main Menu | Setup | Safety | ETSL | Rated Buffer Speed**.
2. Set to rated buffer speed.
3. Scroll right and press **Save**.
4. Press the left button until the ETSL menu is displayed again.
5. Select **Buffer Distance**.
6. Set the buffer distance.
7. Scroll right and press **Save**.

12.12.3 ETSL ODL

The ETSL ODL is used to set the sensitivity of ETSL device. The ETSL ODL setting is increased only to avoid tripping.

Follow these steps to set the ETSL ODL:

1. Navigate to **Main Menu | Setup | Safety | ETSL | ETSL ODL**.
2. Set to the time for the ETSL door open limit.
3. Scroll right and press **Save**.

12.12.4 Slide Distance

It must be ensured that the car stops even when both brakes are applied during emergency situation. To account for this, a slide test is performed to verify how far the car travels after both brakes have been applied. Once the test has been completed, a load test must be performed.

Follow these steps to set the slide distance:

1. Navigate to **Main Menu | Setup | Safety | ETSL | Slide Distance**.
2. Set the slide distance.
3. Scroll right and press **Save**.

12.12.5 Camera Offset

The camera offset is the distance between the main camera and the ETSL camera.

Follow these steps to set the camera offset:

1. Navigate to **Main Menu | Setup | Safety | ETSL | Camera Offset**.
2. Set the camera offset.
3. Scroll right and press **Save**.

13 Status

The status of each functionality can be viewed to determine which functions are active.

13.1 Input Status

The Input Status displays the status for the inputs configured on the MR board.

Follow these steps to view the status of the inputs:

1. Navigate to **Main Menu | Status | Inputs**.
2. Scroll and select the type of input.
3. View the status of the input configured.

13.2 Output Status

The Output Status displays the status for the outputs configured on the MR board.

Follow these steps to view the status of the outputs:

1. Navigate to **Main Menu | Status | Outputs**.
2. Scroll and select the type of output.

3. View the status of the output configured.

13.3 Brake Status

The Brake Status indicates the status of the Brake board.
Follow these steps to view the status of Brake board:

1. Navigate to **Main Menu | Status | Brake Status**.

2. View the status of the Brake board.

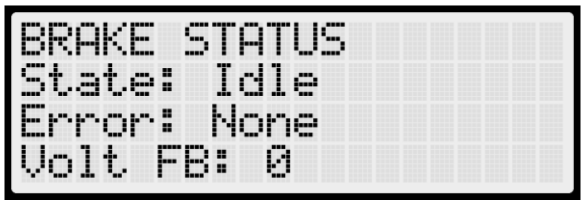

Figure 40: Brake Status Menu

13.4 EBrake Status

The EBrake Status indicates the status of the secondary brake board. If no secondary brake board is connected to the controller, the state and error will display as **Unknown**.

Follow these steps to view the status of secondary Brake board:

1. Navigate to **Main Menu | Status | EBrake Status**.

2. View the status of the Brake board.

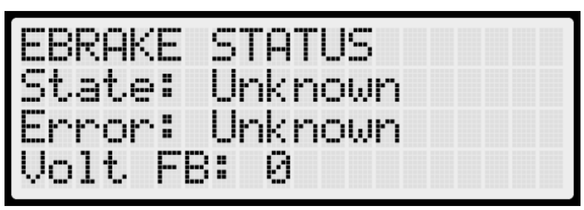

Figure 41: EBrake Status Menu

13.5 Expansion Status

The Expansion Status displays the Input/Output of an expansion board in service. The “IN:” and “OUT:” display the active inputs and outputs on the board, respectively.

Follow these steps to view the Expansion Status:

1. Navigate to **Main Menu | Status | Expansion Status**.

2. Scroll and select the expansion board group.

   - Expansion boards are set in groups of 8.

3. View the status of the expansion board.

```
EXP01 - ONLINE
IN: 1.......
OUT: 1.......
ERR: None
```

Figure 42: Active Expansion Board Status

```
EXP17 - OFFLINE
IN: ........
OUT: ........
ERR: Unknown
```

Figure 43: Inactive Expansion Board Status

The **Expansion Board Status** menu displays the following information:

- **Expansion Board Activity**: Displays the connection status of the board.
- **In**: Displays active inputs.
- **Out**: Displays active outputs.
- **Error**: Displays an error if a red LED is illuminated on the Expansion Board.

13.6 Riser Board Status

The Riser Board Status displays the activity of the hall network and indicates any errors present.

Follow these steps to view the Riser Board Status:

1. Navigate to **Main Menu | Status | Riser Board Status**.

2. View the Riser board status.

```
RIS1 Active   v.MRT8
 ERR: None
 IN: 12345.78
 OUT: 1.......
```

Figure 44: Active Riser Board Status

```
RIS1 InActive v.MRT8
 ERR: Unknown
 IN: ........
 OUT: ........
```

Figure 45: Inactive Riser Board Status

The **Riser Board Status** menu displays the following information:

- **Riser Board Activity and Version**: Shows the software version in the top-right corner and indicates the board's activity status. If the Riser board is online, it is marked as **Active**; if offline, it is marked as **Inactive**.
- **Error**: Displays an error if a red LED is illuminated on the Riser board.
- **In**: Displays the active inputs.
- **Out**: Displays the active outputs.

13.7 CPLD

The CPLD Status displays the current CPLD software version, any active faults, command signals, and the type of input detected during preflight operation.

Follow these steps to view the MR CPLD Status:

1. Navigate to **Main Menu | Status | CPLD Status**.
2. Scroll and select **MR**, **CT**, or **COP CPLD**.
3. View the CPLD status.
    - Scroll down to see additional information.

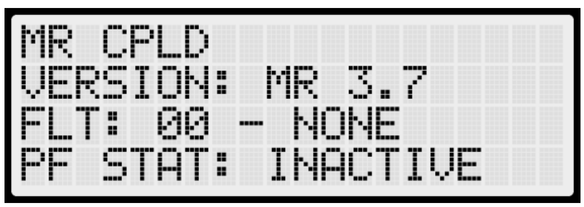

Figure 46: MR CPLD Menu

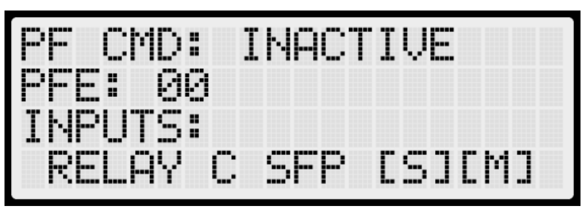

Figure 47: MR CPLD Menu Continued

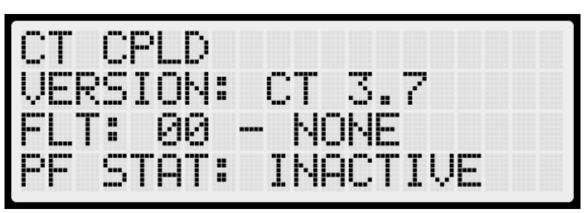

Figure 48: CT CPLD Menu

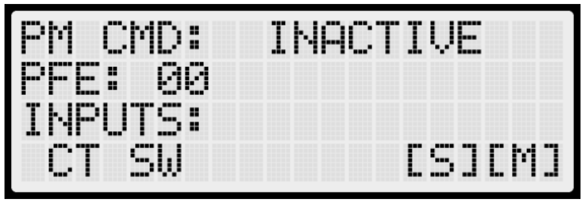

Figure 49: CT CPLD Menu Continued

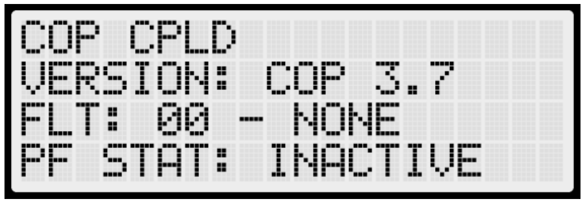

Figure 50: COP CPLD Menu

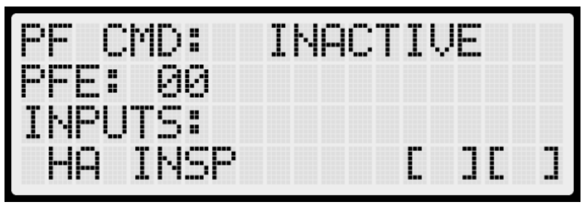

Figure 51: COP CPLD Menu Continued

The input status as detected by the CPLD (Safety Processor) is indicated by an **"S"** in the first bracket when the input is active. The status as detected by the MR, CT, or COP boards is indicated by an **"M"** in the second bracket when the input is active.

- **S**: Safety (CPLD)
- **M**: MCU (MR / COP / CT)

The table below lists the CPLD menu description.

Table 11: CPLD Menu Description

CPLD Menu	Description
CPLD	Displays the type of CPLD being viewed.
VERSION	Displays the CPLD version software.
PFE	Displays the preflight failure number of the CPLD.
FLT	Displays a fault code for an existing fault. If there is no fault, the status is shown as None.
PF STAT	Displays a check performed at the end of runs where safety critical inputs are toggled to confirm hardware functionality. Check if it passed or failed.
PF CMD	Displays the EB relay commands to the MR board as part of the preflight process. This field is not used by the CT and COP boards.
INPUTS	Status of signals read by both the CPLD and the MR, CT, or COP board.

The table below lists the CPLD Preflight status.

Table 12: CPLD Preflight Status

Number	Name	Description
0	INACTIVE	Preflight not in progress.
1	ACTIVE	Preflight check is in progress.
2	PASS	Preflight has completed and detected no errors.
3	FAIL	Preflight has completed and detected errors.

The table below lists CPLD Preflight command.

Table 13: CPLD Preflight Command

Number	Name	Description
0	INACTIVE	No commands issued the EB relays.
4	PICK BYP	CPLD issuing override command to pick the EB4 relay.
5	DROP RG	CPLD issuing override command to drop the EB2 relay.
6	PICK RG	CPLD issuing override command to pick the EB2 relay.
7	DROP BYP	CPLD issuing override command to drop the EB4 relay.

The table below lists CPLD inputs.

Table 14: CPLD Inputs

Name	Description
MR Board	
RELAY C SFP	Control signal to the SFP relay
RELAY M SFP	Status signal of the SFP relay
RELAY C SFM	Control signal to the SFM relay
RELAY M SFM	Status signal of the SFM relay
RELAY C EB1	Control signal of the EB1 relay
RELAY M EB1	Status signal of the EB1 relay
RELAY C EB2	Control signal of the EB2 relay
RELAY M EB2	Status signal of the EB2 relay
RELAY C EB3	Control signal of the EB3 relay
RELAY M EB3	Status signal of the EB3 relay
RELAY C EB4	Control signal of the EB4 relay
RELAY M EB4	Status signal of the EB4 relay
PIT INSP	Status of the Pit Inspection input
LND INSP	Status of the Landing Inspection input
MR INSP	Status of the MR Inspection input
ATU	Status of the Access Top Up input
ATD	Status of the Access Top Down input
ABU	Status of the Access Bottom Up input
ABD	Status of the Access Bottom Down input
MM	Status of the Mechanics Mode input
BYP H	Status of the Bypass Hoistway Door switch
BYP C	Status of the Bypass Car Door switch
LRT	Status of the Rear Top Lock input
LRM	Status of the Rear Middle Lock input
LRB	Status of the Rear Bottom Lock input
LFT	Status of the Front Top Lock input

LFM	Status of the Front Middle Lock input
LFB	Status of the Front Bottom Lock input
120VAC	Status of the 120 VAC Source input
GOV	Status of the Governor input
PIT	Status of the Pit input
BUF	Status of the Buffer input
TFL	Status of the Top Final Limit input
BFL	Status of the Bottom Final Limit input
SFH	Status of the SFH Safety input
SFM	Status of the SFM Safety input
DIP 1B-8B	Status of DIP 1-8 switches
NTS	Status of the MR board NTS output
CT Board	
CT SW	Status of the CT switch
ESC HATCH	Status of the CT Escape Hatch input
CAR SAFE	Status of the CT Car Safeties input
CT INSP	Status of the CT Inspection input
GSWF	Status of the Front Gate switch input
GSWR	Status of the Rear Gate switch input
DZF	Status of the Front Door Zone input
DZR	Status of the Rear Door Zone input
DIP 1B-8B	Status of DIP 1-8 switches
COP Board	
HA INSP	Status of the Hoistway Access Inspection input
IC ST	Status of the IC Stop switch input
FSS	Status of the Fire Stop switch input
IC INSP	Status of the IC Inspection input
DIP 1B-8B	Status of DIP 1-8 switches

13.8 Load Weighing Status

The load weighing status displays the weight and torque of the car. Refer to the **C4 Load Weighing Device** for more information.

13.9 E-Power Status

The E-Power Status indicates whether the car is operating on Emergency Power.

Follow the steps below to view which car is operating on Emergency Power:

1. Navigate to **Main Menu | Status | E-Power Status**.
2. View the E-Power status.

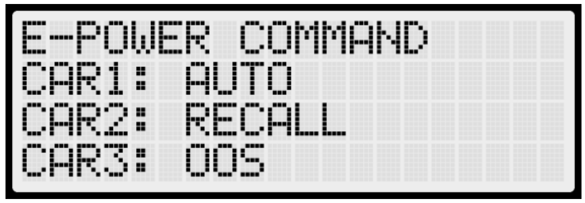

Figure 52: E-POWER COMMAND Menu

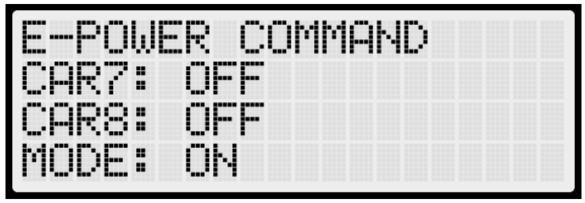

Figure 53: E-POWER COMMAND Menu Continued

The **E-Power Command** menu displays the Emergency Power status for each car in the group, along with the current mode of operation.

The following statuses may appear under each car within the **E-Power Command** menu:

- **Off**: Emergency power is not active.
- **Precall**: A brief command issued to determine the car's current operating mode. It prevents car movement and is used during E-Power Out-of-Service (OOS) operations to gather status.
- **Recall**: The car is commanded to return to its recall floor and remain there with the doors open.
- **Auto**: The car is selected to operate normally.
- **OOS**: The car is commanded to stop immediately if in motion and remain faulted until further commands are issued. This is triggered when a car is awaiting recall, has failed to recall, or if the Up to Speed input is missing.
- **Pretransfer**: The car is commanded to decelerate and stop at the nearest landing, remaining there with doors open until further instructions. This occurs when the **Pretransfer** input is active.

The group-level modes appear in the lower section of the **E-Power Command** menu:

- **Off**: The car group is not operating on emergency power.
- **On**: Group cars are being held out of service, awaiting signals to begin recall.
- **Recall**: Group cars are currently being recalled.
- **Run Car**: Group cars are being selected to run.
- **Pretransfer**: The group is in a pretransfer state due to an active Pretransfer input. This is typically used to stop cars before transitioning from generator power back to main line power.

13.10 EMS Status

The Emergency Medical Services Status displays the communication status of the hall board when a car is designated for EMS operation.

Follow the steps below to view the EMS Status:

1. Navigate to **Main Menu | Status | EMS Status**.

2. Scroll and view the status of the EMS Hall Calls assigned to the cars.

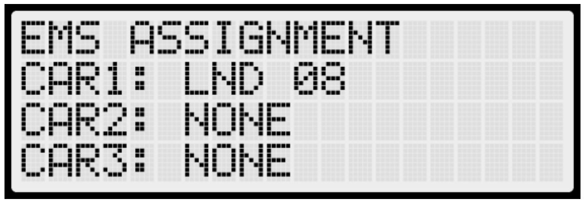

Figure 54: EMS STATUS Menu – Car 1 Assigned

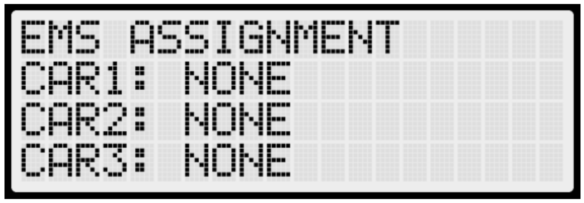

Figure 55: EMS STATUS Menu – No Cars Assigned

- An EMS Hall Call is assigned to the nearest car configured to take these calls.
- If a car is not assigned to EMS operation, the communication status will display "**NONE**".

13.11 Hall Call Status

The Hall Call Status displays the direction of the car when a Hall Call is placed.

Follow these steps to view the Hall Call Status:

1. Navigate to **Main Menu | Status | Hall Call Status**.
2. Scroll and select **Up** or **Down Calls**.
3. View the Hall Calls with the car traveling either up or down.

13.12 Virtual Inputs

Virtual Inputs display the status of inputs virtually, rather than through the main screens on the MR, CT, or COP boards.

13.12.1 Remote Commands

Remote Commands are instructions and associated parameters sent remotely to the controller. This section displays the status of those commands as received via remote access.

13.12.1.1 Car Call Security

Car Call Security displays the status of the Car Call Security Map set through remote monitoring. Each bit in the hexadecimal value corresponds to a group of four floors.

- Example:
  - If security access is set for Floors 1 and 4, the display shows: **00000009**
  - If only Floor 1 is set, the display shows: **00000001**
  - If no floors are secured, the display shows: **00000000**

Follow these steps to view the Car Call Security Status for Front or Rear:

1. Navigate to **Main Menu | Status | Virtual Inputs | Car Call Security**.

2. Select either the **Front** or **Rear** Car Calls.

3. View the status of Front or Rear Car Calls that require security access.

Figure 56: Secure Car Front Menu

Figure 57: Secure Car Rear Menu

13.12.1.2 Hall Call Security

Hall Call Security displays the hall security mask set through remote monitoring. Each bit in the hexadecimal value corresponds to a group of four floors.

- Example:
  - If security access is set for Floors 1 and 4, the display shows: **00000009**
  - If only Floor 1 is set, the display shows: **00000001**
  - If no floors are secured, the display shows: **00000000**

Follow these steps to view the Hall Call Security Status for Front or Rear:

1. Navigate to **Main Menu | Status | Virtual Inputs | Hall Call Security**.

2. Select either the **Front** or **Rear** Hall Calls.

3. View the status of Front or Rear Hall Calls that require security access.

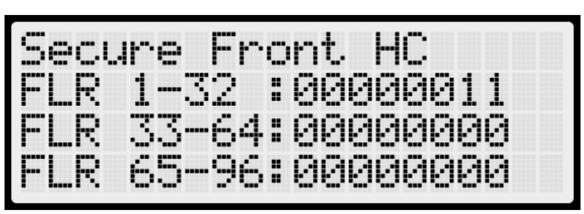

Figure 58: Secure Front Hall Call Menu

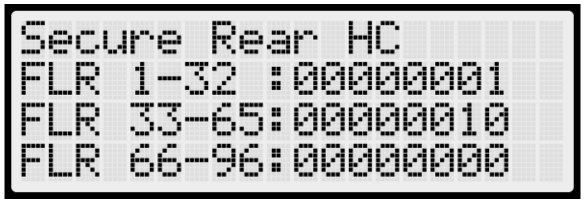

Figure 59: Secure Rear Hall Call Menu

13.12.1.3 Virtual Input

The Virtual Input displays the status of inputs set through the remote monitoring system.

Follow the steps below to view the status of the Virtual Inputs:

1. Navigate to **Main Menu | Status | Virtual Inputs | Virtual Inputs**.

2. View the status of the Virtual Inputs that are active.

13.12.1.4 Recall Input

The Recall Input displays the floor to which a car is being recalled, along with the door side (front or rear) that will open upon arrival. This status is shown when a recall is triggered through the remote monitoring system.

Follow these steps to view the status of the Recall Floor and Door:

1. Navigate to **Main Menu | Status | Virtual Inputs | Recall Input**.

2. View the recall floor and corresponding door.

13.12.1.5 Door Command Landing

The door command landing displays the status of the doors that have been set to land at a designated floor.

Follow these steps view the status of a door set to land at a designated floor:

1. Navigate to **Main Menu | Status | Virtual Inputs | Door Command Landing**.

2. From the Door Command Landing menu, view the designated landing of the car.

13.13 DIP Status

The DIP Status displays the DIP Switches located on the MR, CT, or COP board that are in the ON position.

Follow these steps to view which DIP Switches are ON:

1. Navigate to **Main Menu | Status | DIP Status**.

2. Select **MR**, **CT**, or **COP DIP**.

3. View the DIP Switches that are ON for the MR, CT, or COP Board.

13.14 Door Status

The Door Status displays the input status of a Front or Rear door.

Follow these steps to view the status of the doors:

1. Navigate to **Main Menu | Status | Door Status (Front** or **Rear**)
2. View the input status of the door.

14 Group Setup

Group Setup defines the operating rules for a set of cars within a group. Each group can include up to eight cars.

14.1 Group Car Index

The Group Car Index identifies each car's unique ID within the group.

Follow these steps to set the Group Car Index:

1. Navigate to **Main Menu | Setup | Group Setup | Group Car Index**.
2. Set the car ID.
3. Scroll right and press **Save**.

14.2 Group Landing Offset

The Group Landing Offset defines the number of floors below a car’s lowest served floor that are handled by other groups. This ensures consistent call alignment across multiple groups by mapping calls to the same physical landing. Proper configuration of this offset is essential for accurate group dispatching.

Follow the steps below to set the Group Landing Offset:

1. Navigate to **Main Menu | Setup | Group Setup | Group Landing Offset**.
2. Set the number of floors below the group’s lowest served floor that are serviced by another group.
3. Scroll right and press **Save**.

14.3 Dispatch Timeout

The Dispatch Timeout defines the maximum time a car has to respond to a Hall Call. If this time expires without the call being answered, the car is removed from the group, and the call is reassigned to another car.

Follow these steps to set the Dispatch Timeout:

1. Navigate to **Main Menu | Setup | Group Setup | Dispatch Timeout**.
2. Set the Dispatch Timeout.

- A setting of 0 disables this feature.

3. Scroll right and press **Save**.

14.4 Dispatch Offline Timeout

The Dispatch Offline Timeout sets the duration a car remains out of the group after failing to respond to a Hall Call.

Follow these steps to set the Dispatch Offline Timeout:

1. Navigate to **Main Menu | Setup | Group Setup | Dispatch Offline Timeout**.
2. Set the Dispatch OfflineTimeout.
   - A setting of 0 disables this feature.
3. Scroll right and press **Save**.

15 PI Labels

The PI Labels allows assigning a two-digit alphanumeric identifier to any landing. To enable three-digit alphanumeric identifiers, refer to section **9.7 En. 3 Digit PI**.

Follow these steps to set the PI Labels:

1. Navigate to **Main Menu | Setup | PI Labels**.
2. Scroll and select the floor indicator label.
3. Scroll right and press **Save**.

16 Real-Time Clock

The Real-Time Clock keeps track of the current time and date. Only the **Master Car** has the option to change the Real-Time Clock. All other cars will indicate to go to the **Master Car** to set the time.

Follow these steps to set the date and time:

1. Navigate to **Main Menu | Setup | Real-Time Clock**.
2. Set the date and time.
3. Scroll right and press **Save**.

16.1 Clock Status

The Clock Status displays the current time and date in real-time.

Follow these steps to view the real-time and date:

1. Navigate to **Main Menu | Status | Clock**.

2. View the current time and date.

17 Debug

The Debug menu provides access to various system status indicators used for diagnostics.

17.1 View Debug

The View Debug Data menu displays key debugging information from the main system processors – MR, CT, and COP boards – and can be accessed from each board's user interface.

The **View Debug Data** screen shows:

- The number of bus errors detected since system startup.
- An approximate percentage of bus throughput currently in use.

This information helps diagnose communication issues related to transmission errors or excessive bus traffic.

Follow these steps to view the Debug Data:

1. Navigate to **Main Menu | Debug | View Debug Data**.

2. Scroll and select the Debug Data of the system to be viewed.

The table below lists the data index for MR, CT, and COP board communication.

Table 15: Data Index for MR, CT, and COP Board Communication

Data Index	Name	Description
1	MR CAN 1	MR board CAN1, Car Network (CN1+/-).
2	MR CAN 2	MR board CAN2, Brake Network (BN+/-).
3	MR CAN 3	MR board CAN3, Aux Network (AN+/-).
4	MR CAN 4	MR board CAN 4, Group Network (GN+/-).
5	MR A NET	MR board A processor RS232 Network. Shows errors in packets received by the A processor, sent by the B processor.
6	MR B NET	MR board B processor RS232 Network. Shows errors in packets received by the B processor, sent by the A processor.
7	MR RS485	MR board RS485 Drive network (RX+/-).
8	CT CAN 1	CT board CAN1, Car Network (CN1+/-).
9	CT CAN 2	CT board CAN2, CEDES camera channel 2.
10	CT CAN 3	CT board CAN3, Aux Network (C3H/L).
11	CT CAN 4	CT board CAN4, CEDES camera channel 1.
12	CT A NET	CT board A processor RS232 Network. Shows errors in packets received by the A processor, sent by the B processor.
13	CT B NET	CT board B processor RS232 Network. Shows errors in packets received by the B processor, sent by the A processor.
14	CT RS485	CT board RS485 network.
15	COP CAN 1	COP board CAN1, Car Network (CN1+/-).
16	COP CAN 2	COP board CAN2, CEDES camera #2 channel 2.
17	COP CAN 3	COP board CAN3, Aux Network (C3H/L).

18	COP CAN 4	COP board CAN4, CEDES camera #2 channel 1.
19	COP A NET	COP board A processor RS232 Network. Shows errors in packets received by the A processor, sent by the B processor.
20	COP B NET	COP board B processor RS232 Network. Shows errors in packets received by the B processor, sent by the A processor.
21	COP RS485	COP board RS485 Network.
22	Run Signal	Displays car run signals as a string of binary digits. From right to left, functions are mapped to this list, from top to bottom: 1. Destination Chosen, Run Requested 2. Car Doors Closed 3. Hall Locks Closed 4. Motion Run Flag ON 5. DSD Drive HW Enable 6. Pick M Contactor 7. M Contactor Feedback 8. Drive Energize Commanded 9. Pick B Contactor 10. Serial Speed Reg Rls 11. Brake Pick Command 12. BPS (Software) 13. E-Brake Pick Command 14. E-BPS (Software) 15. Command Speed Nonzero 16. Camera Speed Nonzero
23	Last Stop Pos	Displays the position the car stopped at last run. Only records for normal run stops at the start of the brake drop stop sequence state.
24	MRA Vers.	Displays the third segment of the processor A software version number on the MR board up to 4 characters.
25	MRB Vers.	Displays the third segment of the processor B software version number on the MR board up to 4 characters.
26	CTA Vers.	Displays the third segment of the processor A software version number on the CT board up to 4 characters.
27	CTB Vers.	Displays the third segment of the processor B software version number the CT board up to 4 characters.
28	COPA Vers.	Displays the third segment of the processor A software version number on the COP board. Up to 4 characters.
29	COPB Vers.	Displays the third segment of the processor B software version number on the COP board. Up to 4 characters.
30	Dir. Change Count	Displays the number of times the car has changed direction of movement since controller startup. To reset this count, trigger a FRAM default via **Setup | Miscellaneous | Default | Default Fram**, set to ON.
31	RIS1 CAN1	Displays the error count seen on Riser 1’s CAN1 network.
32	RIS2 CAN1	Displays the error count seen on Riser 2’s CAN1 network.
33	RIS3 CAN1	Displays the error count seen on Riser 3’s CAN1 network.
34	RIS4 CAN1	Displays the error count seen on Riser 4’s CAN1 network.
35	RIS1 CAN2	Displays the error count seen on Riser 1’s CAN2 network.
36	RIS2 CAN2	Displays the error count seen on Riser 2’s CAN2 network.
37	RIS3 CAN2	Displays the error count seen on Riser 3’s CAN2 network.
38	RIS4 CAN2	Displays the error count seen on Riser 4’s CAN2 network.

39	DEST CURRENT	Displays information on the current and next destination in the currently serviced direction as seen by MRA.
40	DEST NEXT	Displays information on the next proposed destination in the direction opposite the currently serviced direction as seen by MRA in addition to destination door zone.
41	IDLE TIME	Displays the different idle timers used by the system.
42	NA	Displays the drive's reported speed (DRV), the commanded speed (CMD), and the camera speed (SPD).
43	DOOR DATA F	Displays front door state machine and timer data.
44	DOOR DATA R	Displays rear door state machine and timer data.
45	N/A	Reserved for viewing data via the STATUS | CPLD STATUS screen.
46	N/A	Reserved for viewing data via the STATUS | CPLD STATUS screen.
47	N/A	Reserved for viewing data via the STATUS | CPLD STATUS screen.

17.2 Enter Car Calls

Enter Car Calls allows Car Calls to be entered directly from the MR, CT, or COP board. The front or rear door will open – if available – based on the selected floor and door side.

Entering car calls from this menu bypasses all forms of security.

Follow the steps below to enter a Car Call:

1. Navigate to **Main Menu | Debug | Enter Car Calls**.
2. Scroll and select **Front** or **Rear**.
3. Enter a Car Call.

17.3 Enter Hall Calls

Enter Hall Calls allows Hall Calls to the group to be entered directly from the MR board.

Follow the steps below to enter a Hall Call:

1. Navigate to **Main Menu | Debug | Enter Hall Calls**.
2. Enter a Hall Call.

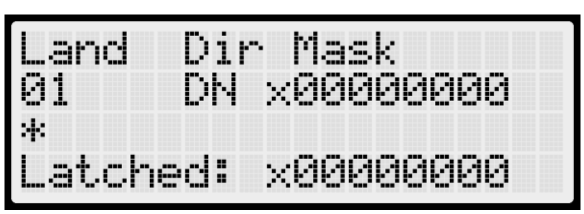

Figure 60: Hall Call Menu

The **Hall Call** menu provides the following options:

- **Landing**: Select the desired landing (this is floor-based, not PI Label-based; e.g., 1 = first floor, 2 = second floor, etc.).
- **Dir**: Specifies the direction of the hall call – **DN** for Down or **UP** for Up.
- **Mask Value**: Sets the function mask value. By default, most configurations use a mask value of **1** for front hall calls. To initiate a front hall call, set the mask value to **1**. Once **Landing**, **Dir**, and **Mask Value** are set, press the **middle/enter** button to send the information.
- **Latched**: Displays the mask value that has been accepted into the dispatching logic.

17.4 Enter Door Command

The Enter Door Command allows Door Open, Door Close, or Nudge commands to be issued from the MR, CT, or COP boards – provided the car is idle, unfaulted, and in a safe state.

Follow these steps to issue a Door Command:

1. Navigate to **Main Menu | Debug | Enter Door Command**.

2. Select the desired action: **Close, Open,** or **Nudge**.

If rear doors are configured, the display shows options for both Front and Rear doors. If only front doors are available, the door type selection is omitted.

17.5 View Network Packet

The View Network Packet option displays raw data and receives counts for packets transmitted between the MR, CT, and COP boards.

Follow these steps to view the Network Packet:

1. Navigate to **Main Menu | Debug | View Network Packet**.

2. View the Network Packet.

17.6 View Group Packet

The View Group Packet options displays raw data and receives counts for packets transmitted between group cars via the GN ± network.

Follow these steps to view the Group Packets:

1. Navigate to **Main Menu | Debug | View Group Packet**.

2. View the Group Packet.

17.7 Acceptance Test

The Acceptance Test menu is used to perform verification testing to confirm that the system meets required specifications and functions as intended. Refer to the **C4 Traction Testing Procedures** for more information.

Follow these steps to perform an Acceptance Test:

1. Navigate to **Main Menu | Debug | Acceptance Test**.

2. Select the test to be performed.

17.8 Emergency Bitmap

The Emergency Bitmap displays the type of emergency.

Follow these steps to view the Emergency Status:

1. Navigate to **Main Menu | Debug | EmergencyBitmap**.

2. View the type of emergency indicated by an **X** next to its name.

17.9 Module Statuses

The Module Status displays the current status of various system functions.

17.9.1 Motion Status

The motion status displays the current motion of the car, the start and stop condition, and the type of profile (See section **4 Digital S-curve Technology ™ (U.S. Patent Pending)**).

Follow these steps to view the Motion Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Motion Status**.

2. View the motion status.

17.9.2 Pattern Data

Pattern Data is the information used to determine traffic.

Follow these steps to view the Pattern Data:

1. Navigate to **Main Menu | Debug | Module Statuses | Pattern Data**.

2. View the pattern data.

17.9.3 Auto Status

The Auto Status displays the status of Automatic Operation.

Follow these steps to view the Automatic Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Auto Status**.

2. View the state of operation.

17.9.4 Recall Status

The Recall Status displays the current state of the car. The status may show one of the following:

- **Unknown**: The car is not attempting to recall.
- **Moving**: The car is attempting to recall and is in motion or trying to move.
- **Stopped**: The car is attempting to recall but is currently stopped at a non-recall floor.
- **Recall Finished**: The car has reached the requested recall floor, and the doors are in the requested state.

Follow these steps to view the Recall Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Recall Status**.

2. View the state of the Recall status.

17.9.5 Fire Status

The Fire Status displays where Fire Phase 1 and 2 are active.

Follow these steps to view the Fire Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Fire Status**.

2. View the Fire status.

17.9.6 Counterweight Status

The Counterweight Status displays the state of counterweight derailment. By default, the state is “Unknown” unless the system is in CW Derail mode. In this mode, the state changes to “GoingToNearestDestination”. Once the car arrives at the destination and the doors open, the state is cleared and displays “No State”.

Follow these steps to view the Counterweight Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Counterweight Status**.

2. View the status of the Counterweight.

17.9.7 Floor Learn Status

The Floor Learning Status indicates whether the car is currently in the floor learning state.

Follow these steps to view the Floor Learn Status:

1. Navigate to **Main Menu | Debug | Module Statuses | Floor Learn Status**.

2. View the Learn status.

17.10 Car Destination

The Car Destination displays the current destination and status of a car within the group.

Follow these steps to view the Car Destination status:

1. Navigate to **Main Menu | Debug | Car Destinations**.

2. View the Car Destination information.

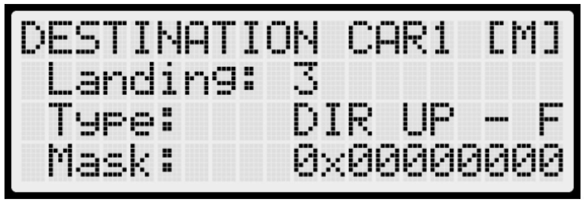

Figure 61: DESTINATION Menu

The **Car Destination** menu displays the following information:

- **Landing**: Indicates the landing number of the car's current destination. The lowest landing is shown as **1**.

- **Type**: Displays the call type associated with the destination assignment.

  - **CC – F**: Car Call at the front opening
  - **CC – R**: Car Call at the rear opening
  - **CC – B**: Car Call at both front and rear openings
  - **DIR UP – F**: Hall Call Up or consecutive upward calls at the front opening
  - **DIR UP – R**: Hall Call Up or consecutive upward calls at the rear opening
  - **DIR UP – B**: Hall Call Up or consecutive upward calls at both openings
  - **DIR DN – F**: Hall Call Down or consecutive downward calls at the front opening
  - **DIR DN – R**: Hall Call Down or consecutive downward calls at the rear opening
  - **DIR DN – B**: Hall Call Down or consecutive downward calls at both openings

- **Mask**: Shows the Hall Call Mask for the car's current destination assignment, based on the Hall Destination Mask Front (HMF) and Rear (HMR) fields. The hall call mask is cleared when the car reaches the destination floor.

17.11 Run Counter

The Run Counter displays the total number of runs.

Follow these steps to view the Run Counter:

1. Navigate to **Main Menu | Debug | Run Counter**.

2. View the number of runs completed by the car.

17.12 DebugRuns

DebugRuns allows random car and hall calls to be generated and placed into the system for testing purposes.

17.12.1 Dwell Time

The Dwell Time is the time between debug test runs.

Follow these steps to set the Dwell Time:

1. Navigate to **Main Menu | Debug | DebugRuns | Dwell Time**.

2. Set the time between test runs.

3. Scroll right and press **Save**.

17.12.2 Terminal to Terminal

Terminal to Terminal allows the car to run from the bottom terminal landing to the top terminal landing.

Follow these steps to set the car to run Terminal to Terminal:

1. Navigate to **Main Menu | Debug | DebugRuns |Terminal to Terminal**.

2. Select if the Front or Rear doors open while running Terminal to Terminal.

3. Scroll to select whether the car should stop at the other terminal using only the Front or Rear doors, depending on the door configuration.

4. Scroll right and press **Save**.

17.12.3 Floor to Floor

Floor to Floor allows the car to stop at each floor with doors that open either from the front or the rear, depending on the selected configuration.

Follow these steps to set the car to stop at each floor:

1. Navigate to **Main Menu | Debug | DebugRuns | Floor to Floor**.

2. Select if the Front or Rear doors open while running Floor to Floor.

3. Scroll to select whether the car should stop at each floor using only the Front or Rear doors, depending on the door configuration.

4. Scroll right and press **Save**.

17.12.4 Random

Random Calls are automatically selected at random. Random Runs allow the car to stop at various floors in an arbitrary pattern, simulating unpredictable usage scenarios.

Follow these steps to set the car to stop randomly at different landings:

1. Navigate to **Main Menu | Debug | DebugRuns | Random**.

2. Select if the Front or Rear doors open during random runs.

3. Scroll to select whether the car should stop at random floors using only the Front or Rear doors, depending on the door configuration.

4. Scroll right and press **Save**.

17.12.5 Hall Random Runs

Hall Random Runs allow random Hall Calls to be generated to simulate hall board requests. The mask set in this menu determines how the Hall Calls are created.

Follow these steps to set the car to stop at a floor by the randomly selected Hall Call:

1. Navigate to **Main Menu | Debug | DebugRuns | Hall Random Runs**.

2. Select if Hall Calls should be placed randomly.

18 About

The About menu displays the following:

- Job Name
- Board Type
- Car Label
- Job Id
- Group Number
- Software Version

Follow these steps to view the job information:

1. Navigate to **Main Menu | About**.

2. View the Job ID information.

FEATURES & MODES OF OPERATION

1 Floors / Security

This section outlines the procedures for configuring floor security settings.

1.1 Security Setting

To secure specific floors, the Security setting must be turned **ON** for each applicable opening.

- **Front Security Mask**: Defines which landings with front openings are secured. These are located at addresses 32-0008 to 32-0010.

- **Rear Security Mask**: Defines which landings with rear openings are secured. These are located at addresses 32-0012 to 32-0014.

Refer to the **C4 Parameter List** for detailed parameter information.

NOTE: The security input must be assigned before configuring which floors require security access.

Follow the steps below to setup security for Front or Rear Car Calls:

1. Navigate to **Main Menu | Setup | Floors | Security (Front or Rear)**.
2. Scroll and select the floors where the front or rear door will open.
   - Setting the floor to **ON** will enable security for that opening.
3. Scroll right and press **Save**.

1.2 Enable Hall Security

Enabling Hall Security restricts access to designated floors to authorized users only.

Follow the steps below to enable Hall Security:

1. Navigate to **Main Menu | Setup | Group Setup | Enable Hall Security**.
2. Set to **ON**.
3. Scroll right and press **Save**.

1.3 Access Code

The Access Code feature secures Car Calls by requiring a 4-digit code entry. When a Car Call is initiated, the corresponding button lamp flashes, and a limited time is available to enter the code – one digit at a time.

Access Codes are available for a total of 16 landing positions:

- 16 Front landings
- 16 Rear landings
- Or 8 Front + 8 Rear landings

NOTE: For applications with more than 16 floors, Access Codes must be offset from lower floors to enable assignment on higher floors. For example, to assign Access Codes to floors 17-20, offset Access Codes from floors 1-4 (refer to section **1.3.4 Offset Floors** for details).

The system compares the entered button sequence with the stored code:

- If the sequence matches, the Car Call latches.
- If the code is incorrect or the input time expires, the lamp stops flashing and the sequence must be re-entered starting with the Car Call button.

Additional Notes:

- Access Code security is bypassed when the car is on Fire Service or EMS.
- Debugging Car Calls bypasses all Car Call Security features, including Access Codes.

1.3.1 Front Door Access Code

Follow the steps below to set up the front door Access Code:

1. Navigate to **Main Menu | Setup | Access Code | Access Codes (Front or Rear)**.
2. Scroll and select the Car Call floor that requires an Access Code.
    - An Access Code may not have been previously set. If an Access Code has not been set, the display shows all dashes.
3. Set the Access Code.

    NOTE: when a front or rear floor has not been configured, the access code displays “n/a” for that floor.
4. Scroll right and press **Save**.

1.3.2 Disabling an Access Code

Follow the steps below to disable an Access Code:

1. Navigate to **Main Menu | Setup | Access Code | Access Codes (Front or Rear)**.
2. Scroll and select the Car Call floor that no longer requires an Access Code.

    NOTE: An Access Code may not have been previously set. If an Access Code has not been set, the display shows all dashes.
3. Set **all four digits** of the Access Code to the **lowest PI-defined value**.
4. After changing the last digit, the UI will automatically display **“- - - -”**, indicating the Access Code has been cleared.
5. Scroll right and press **Save**.

1.3.3 Additional Front / Rear Door Access Codes

To configure more than 16 Access Codes for front or rear doors, Access Codes must first be disabled on the opposite door. For example, to assign more than 16 front door Access Codes, disable rear door Access Codes.

Follow the steps below to disable Access Codes for front or rear doors:

1. Navigate to **Main Menu | Setup | Access Code | Select Enable Front (or Rear) Doors**.
2. Set to **ON**.
3. Scroll right and press **Save**.

1.3.4 Offset Floors

Follow the steps below to offset floors that do not require Access Codes:

1. Navigate to **Main Menu | Setup | Access Code | Offset Floors**.
2. Set the number of floors to offset.
3. Scroll right and press **Save**.

1.3.5 Car Call Button Timer

The Car Call Button Timer defines the duration allowed to enter each digit of the Access Code – one digit at a time. The same amount of time is allocated per digit. If the timer expires before the full code is entered, the Car Call button must be pressed again and the entire code re-entered within the configured time limit.

NOTE: The default timer value is five seconds per digit.

Follow the steps below to configure the time allowed for entering each Access Code digit:

1. Navigate to **Main Menu | Setup | Access Code | CCB Timer**.
2. Set the time to enter each digit of the Access Code.
3. Scroll right and press **Save**.

1.4 Timed Car Call Security

Timed Car Call Security allows Car Calls to be denied during specific times on any day of the week. When Timed Car Call Security is enabled, Car Calls configured with time-based restrictions will not latch.

Access to secured floors resumes under any of the following conditions:

- The defined time period has passed
- Timed Car Call Security is turned OFF
- Car Call Enable Key is activated
- Enable All Car Calls is selected

NOTE: If Access Code security is configured, the Access Code will override Timed Car Call Security.

Follow the steps below to configure Front and Rear Timed Car Call Security settings:

1. Navigate to **Main Menu | Setup | Floors | Timed Car Call Security | Enable Floor (Front or Rear)**.
2. Select the front or rear secured floor.
3. Scroll right and press **Save**.
4. To set the security floor for the weekday or weekend:
   i. **Weekday:** Scroll back to the **Timed Car Call Security** menu and go to step 6.
   ii. **Weekend:** Scroll back to the **Timed Car Call Security** menu and go to step 13.
5. Select **Start (M-F)**.
6. Set the start time for the Car Call Security.
7. Scroll right and press **Save**.
8. Scroll back to the **Timed Car Call Security** menu.
9. Select **Stop (M-F)**.
10. Set the stop time for the Car Call Security.
11. Scroll right and press **Save**.
12. Select Start **(S-S)**.
13. Set the start time of the Car Call Security.
14. Scroll right and press **Save**.
15. Scroll back to the **Timed Car Call Security** menu.
16. Select **Stop (S-S)**.
17. Set the start time of the Car Call Security.
18. Scroll right and press **Save**.

1.5 Timed Hall Call Security

Timed Hall Call Security allows Hall Calls to be restricted during specific time periods on any day of the week. When this feature is enabled, time-secured Hall Calls will not latch. The feature can be activated either through the controller UI or by programming the Enable Hall Call Timed Security input.

Once the configured time period has passed or Timed Hall Call Security is turned OFF, Hall Calls resume normal operation.

When Timed Hall Call Security is active, any pending Hall Calls to non-secured floors are canceled. However, all latched Car Calls will continue to be serviced.

Follow the steps below to configure front and rear Timed Hall Call Security:

1. Enable Hall Call Security (refer to section **1.2 Enable Hall Security**).
2. Navigate to **Main Menu | Setup | Floors | Timed Hall Call Security | Enable Floor (Front or Rear)**.
3. Select the front or rear secured floor.
4. Scroll right and press **Save**.
5. To set the security floor for the weekday or weekend:
   i. **Weekday:** Scroll back to the **Timed Hall Call Security** menu and go to step 7.
   ii. **Weekend:** Scroll back to the **Timed Hall Call Security** menu and go to step 14.
6. Select **Start (M-F)**.
7. Set the start time for the Hall Call Security.
8. Scroll right and press **Save**.
9. Scroll back to the **Timed Hall Call Security** menu.
10. Select **Stop (M-F)**.
11. Set the stop time for the Hall Call Security.
12. Scroll right and press **Save**.
13. Select Start **(S-S)**.
14. Set the start time of the Hall Call Security.
15. Scroll right and press **Save**.
16. Scroll back to the **Timed Hall Call Security** menu.
17. Select **Stop (S-S)**.
18. Set the start time of the Hall Call Security.
19. Scroll right and press **Save**.

1.6 Dynamic Security

Dynamic Security activates the Car Call Security and Hall Call Security features for a user-defined duration (based on specific dates and times).

This feature is accessible via the GUI and Local Monitoring Apps.

Under Dynamic Security, floor-specific security cannot be customized:

- If any front door requires Car Call or Hall Call Security, all front doors will be secured.
- If any rear door requires security, all rear doors will be secured.

In group operation, Car Call Security can be selectively enabled on specific cars. However, Hall Call Security will be applied automatically to all cars once enabled.

2 Lockout Passcode

The Lockout Passcode is a screen lockout feature that restricts controller access to authorized elevator personnel only.

NOTE: Once the Lockout Passcode is set, the controller will prompt for it in the following scenarios:

- After 30 seconds of inactivity on the Home Page
- After 15 minutes of inactivity within the Main Menu

Follow the steps below to configure the Lockout Passcode:

1. Navigate to **Main Menu | Setup | Miscellaneous | Lockout Passcode**.

2. Enter the lockout passcode.

3. Scroll right and press **Save**.

3 Payment Passcode

The Payment Password is the controller password required for Normal operation.

Follow the steps below to enter the Payment Passcode:

1. Navigate to **Main Menu | Setup | Miscellaneous | Payment Passcode**.

2. Enter the payment passcode.

   NOTE: The passcode will be provided once payment is confirmed.

3. Scroll right and press **Save**.

4 Parking

Parking automatically sends the car to a designated floor after a specified period of inactivity, defined by the Parking Timer.

4.1 GUI Parking

When enabled, Dynamic Parking is configured through the DAD unit using the GUI interface. After a car has been idle for the configured time, it travels to a designated floor based on Hall Call history and parks. While parked, the car remains active and will respond immediately to all Hall and Car Calls.

Dynamic Parking can be configured for multiple cars in a group. In such cases, a Primary and Secondary designated floor can be assigned. If the car parked at the Primary floor answers a Hall or Car Call, the car at the Secondary floor relocates to the Primary floor. If another car in the group becomes idle after the set period, it will park at the Secondary designated floor.

For configuration details, refer to the **C4 & Hydro:Evolved GUI Manual**.

Follow the steps below to enable Dynamic Parking via DAD unit:

1. Navigate to **Main Menu | Setup | Miscellaneous | Parking | GUI Parking**.
2. Set to **ON**.
3. Scroll right and press **Save**.

4.2 Parking Timer

The Parking Timer defines the duration a car remains idle without any commands before initiating parking.

Follow the steps below to configure the Parking Timer:

1. Navigate to **Main Menu | Setup | Miscellaneous | Parking | Parking Timer**.
2. Set the time prior to parking.

   NOTE: If the timer is set to zero, parking will be disabled.
3. Scroll right and press **Save**.

4.3 Parking Floor

The Parking Floor is the floor to which the car travels and parks after the Parking Timer elapses.

Follow the steps below to assign the Parking Floor:

1. Navigate to **Main Menu | Setup | Miscellaneous | Parking | Parking Floor**.
2. Set the Parking Floor.
3. Scroll right and press **Save**.

4.4 Parking Door Open

When parked, the car door can either remain closed or stay open.

Follow the steps below to configure the door behavior when the car is parked:

1. Navigate to **Main Menu | Setup | Miscellaneous | Parking | Parking Door Open**.
2. Set to **ON**.
3. Scroll right and press **Save**.

5 Direction Counter Limit

Direction Counter Trip Reset takes the car out of service after registering a predefined number of direction changes. Each change represents a shift in travel direction. For more information, refer to the **C4 Traction Testing Procedures**.

Follow the steps below to set the Direction Counter Limit:

1. Navigate to **Main Menu | Setup | Miscellaneous | Dir. Counter Limit**.
2. Enter the access code.

   NOTE: the access code is the payment passcode (refer to section **3 Payment Passcode**). For jobs using software releases older than 65l0, contact Technical Support to request User Manual version 1.11.
3. Set the maximum number of direction changes desired.
4. Scroll right and press **Save**.

6 Direction Change Delay

Direction Change Delay is the configured time the car waits before responding to car calls or hall calls in the opposite direction. This delay allows passengers time to enter car calls in the same direction the car was previously traveling.

Follow the steps below to set the Direction Change Delay:

1. Navigate to **Main Menu | Setup | Miscellaneous | Direction Change Delay**.
2. Set the time delay before the car begins responding to calls in the opposite direction.
3. Scroll right and press **Save**.

7 OOS

Elevators can be taken Out of Service (OOS) for maintenance or other operational needs. This operation can be automatically engaged when some predefined high priority faults during a specific time are detected by the control system.

7.1 Disable OOS

The Disable OOS feature prevents the car from entering Out of Service mode, even if the Hourly Fault Limit is exceeded or the OOS input is active.

Follow the steps below to Disable OOS:

1. Navigate to **Main Menu | Setup | Miscellaneous | OOS | Disable OOS**.
2. Set to **ON**.
3. Scroll right and press **Save**.

7.2 Hourly Fault Limit

The Hourly Fault Limit is the maximum number of faults permitted within one hour before the car is taken out of service. The car remains out of service until the one-hour window has elapsed.

Follow the steps below to set the Hourly Fault Limit:

1. Navigate to **Main Menu | Setup | Miscellaneous | OOS | Hourly Fault Limit**.
2. Set the number of logged faults allowed per hour.
3. Scroll right and press **Save**.

7.3 Maximum Starts Per Minute

The Maximum Starts Per Minute defines how many times a car can initiate a run in automatic operation within one minute. If this limit is exceeded, the car is taken out of service and remains so until the one-minute window has elapsed.

Follow the steps below to set the Maximum Starts Per Minute:

1. Navigate to **Main Menu | Setup | Miscellaneous | OOS | Maximum Starts Per Minute**.
2. Adjust the value as required.
3. Scroll right and press **Save**.

7.4 Disable PI OOS

When PI OOS is disabled, OOS will not flash on the PI display when the car is out of group.

Follow the steps below to Disable PI OOS:

1. Navigate to **Main Menu | Setup | Miscellaneous | OOS | Disable PI OOS**.
2. Set to **ON**.
3. Scroll right and press **Save**.

8 Reset Service

The Reset Service feature places the car out of service after a defined maximum number of trips.

Follow the steps below to set the maximum number of trips before the car goes out of service:

1. Navigate to **Main Menu | Debug | Edit Parameters**.

2. Refer to the **C4 Parameter List**:

   i. Set the **Reset Service Code**.
   ii. Set the maximum **Number of HC Trips**.

9 Replay Feature

The Replay Feature displays the car's state before, during, and after a Fault or Alarm event.

NOTE: If the total time range of an event exceeds 90 seconds, the Replay Feature will generate multiple entries for the same event.

The Replay Feature allows filtering of specific data points to track, including Car Position, Car Speed, Faults, and Alarms. Multiple Faults and Alarms can be selected simultaneously for tracking. Car data can be viewed at any point within the event timeline. Available data includes Floor Label, Position, Car Speed, Motion, and the states of Inputs and Outputs.

Additional features include the ability to download the event and view it in full-screen mode.

For detailed instructions, refer to the **C4 & Hydro:Evolved GUI Manual**.

10 Smartrise Air Mobile Application

The Smartrise Air mobile application provides a remote interface for performing software updates. The application automatically scans for nearby controller units, eliminating manual pairing and complex setup. Software updates are downloaded directly from the cloud, ensuring controllers remain up to date with the latest features and enhancements.

The app can be downloaded from: https://smartrise.us/smartrise-air

11 Data Acquisition Device Unit

Each Smartrise Controller includes a pre-wired DAD Unit equipped with a Graphical User Interface Application (GUI).

Refer to the **C4 & Hydro:Evolved GUI Manual** for additional information.

11.1 DAD Status

The DAD Status screen displays the communication and operational status of the DAD Unit.

Follow the steps below to view the DAD status:

1. Navigate to **Main Menu | Status | Dad Status**.

2. View the status of the DAD unit.

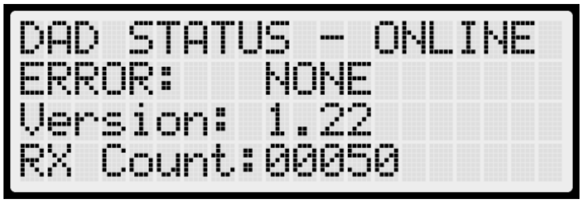

Figure 62: DAD STATUS Menu

The **DAD Status** menu displays the following:

- **DAD STATUS:** Indicates whether the DAD unit is **ONLINE** or **OFFLINE**
- **ERROR:** Displays the current fault if the DAD unit is experiencing an issue. A red LED blinking on the DAD unit signifies an active error.
- **Version:** Shows the current software version installed on the DAD unit.
- **RX Count:** Displays the number of communication packets the controller is receiving from the DAD unit.

12 Load Weighing Device

The load weighing device monitors the weight of the car.

12.1 LWD Communication

Depending on the location of the LWD, the device communicates to the controller serially to the MR board or CT board.

Follow the steps below to set the Load Weighing Device communication:

1. Navigate to **Main Menu | Setup | Load Weigher | Type Select**.

2. Based on the LWD connection:

   i. If the LWD is connected to the MR board, go to step 3.
   ii. If the LWD is connected to the CT board, go to step 4.

   NOTE: serial communication to the LWD will be disabled and system will look for discrete light/full/overload signals.

3. Scroll and select Serial MR. Proceed to step 5.

4. Scroll and select Serial CT.

5. Scroll right and press **Save**.

For detailed information on how to install, calibrate, adjust, and tune the Smartrise LWD, refer to the **C4 Load Weighing Device.**

13 Manual Traction Rescue

The rescue operation safely and securely moves the car to the nearest floor and allow the passengers to exit if the car ever loses power.

The Smartrise C4 Controller uses two forms of rescue:

- Auto Rescue: The Auto Rescue is ON and has been implemented into the system (Auto Rescue Operation is an option on the Engineering Data Form). The car automatically moves in the direction of least resistance determined by the system. It moves at leveling speed and stops at the nearest opening.
- Manual Rescue: If Auto Rescue is OFF, the car remains faulted until Manual Rescue is initiated.

14 Cross Registration

Cross Registration (XReg) allows the controller dispatching system to interface with non-Smartrise controllers.

14.1 XReg Cars

Cross Registration Cars defines the number of cars from the legacy system included in dispatching.

Follow the steps below to set the number of XREG Cars:

1. Navigate to **Main Menu | Setup | Group Setup | XReg Cars**.
2. Enter the number of cars from the legacy system.
3. Scroll right and press **Save**.

14.2 XReg Dest Timeout

If a car is assigned a Cross Registration destination and does not respond within a defined period, the car is temporarily removed from the group. The car is reinstated once the Cross Registration timeout has elapsed.

Follow the steps below to set the Cross Registration Destination Timeout:

1. Navigate to **Main Menu | Setup | Group Setup | XReg Destination Timeout**.
2. Set the time for a Cross Registration car to answer a Car Call prior to another car responding.
   - If set to zero, this feature will be disabled.
3. Scroll right and press **Save**.

14.3 XReg Dest Offline Timeout

The Cross Registration Offline Timeout defines the duration a car remains out of the group after failing to answer hall calls.

Follow the steps below to set Cross Registration Destination Offline Timeout:

1. Navigate to **Main Menu | Setup | Group Setup | XReg Destination Offline Timeout**.
2. Set the time a Cross Registration car should stay out of the group.
   - If set to zero, this feature is disabled.

3. Scroll right and press Save.

14.4 XReg Destination

The system monitors the destination assigned to each Car Call and Hall Call within the group. The display indicates the type of call and whether it is for a Front or Rear opening. When a Hall Call is placed, the corresponding mask reflects the Hall Call being answered. To view the destination of each individual car within the group, use the Up or Down buttons.

Follow the steps below to view the Car Call Destination:

1. Navigate to **Main Menu | Debug | XReg Destination**.
2. View the destination of the car within the group.

14.5 XReg Data

Cross Registration Data displays detailed information about the status of each Alien Car.

Follow the steps below to view the status of the car:

1. Navigate to **Main Menu | Debug | XReg Data**.
2. From the Car Data Overview Status, press the right button.
3. From the Hall Mask Status, press the right button.
4. From the Front Opening Map Status, view the status and press the right button.
5. From the Rear Opening Map Status, view the status and press the right button.
6. From the Emergency Power Status, view the status and press the right button.
7. From the Fire Emergency Power Status, view the status.

15 Construction Mode

In Construction Mode, the elevator is configured to operate specifically during building construction or renovation. This mode accommodates the specific needs of the building process as the elevator system is physically incomplete.

Refer to the **C4 Installation Guide** for more information.

16 Inspection Mode

In Inspection Mode, the elevator is removed from automatic operation and placed under manual control. This mode is typically used for maintenance, inspection, or troubleshooting by authorized personnel.

During Inspection operation, the elevator travels at the Inspection speed.

Emergency stop buttons remain functional to halt the elevator if needed.

Automatic door operation is disabled, requiring doors to be opened and closed manually if necessary.

Normal call buttons (inside and outside the cab) are deactivated.

16.1 Machine Room, CT, Hoistway Access, and Pit Inspections

Machine Room Inspection is activated using the MR INSPECTION switch. The car can be moved using the UP and DOWN buttons located on the MR board. This form of inspection is overridden by Hoistway Access and CT Inspection.

CT Inspection is the highest mode of inspection and overrides all other forms. The car is placed on CT Inspection using the INSPECTION switch located on the top of the Car Run Box. A run can be asserted using the Enable, UP, or DOWN commands from the Run Box.

Hoistway Access Inspection allows the car to run with doors open at a terminal landing. The Hoistway Access Inputs are wired back to each controller's MR board. The car must be at a terminal landing to use this inspection mode.

Pit Inspection is activated by disconnecting the 24 V to input 501 on the MR board, by configuring parameter Enable_Pit_Inspection (01-0037) to ON, and my setting DIP B4 t the ON position. Input 501 is a fixed input for this mode.

17 Hoistway Access Mode

The Hoistway Access safely and securely moves the car at the terminal landings to gain access to either the pit or the top of the hoistway. Normally, this is done via a key switch that enables the top or bottom access inputs on the controller. The car will only move if the doors are open.

Follow the steps below to access the Hoistway:

1. Navigate to **Main Menu | Setup | Hoistway Access**.
2. If the hoistway is being accessed from the top of the hoistway or the pit:
   i. If the hoistway is being accessed from the top of the hoistway, go to step 3.
   ii. If the hoistway is being accessed from the bottom of the hoistway, go to step 14.
3. Scroll and select **Allowed Distance Top**.
4. Scroll and select the distance from the car to the hoistway.
5. Scroll right and press **Save**.
6. Press the left button until the **Hoistway Access** menu displays.
7. Scroll and select **Top Floor**.
8. Select the top floor just below the hoistway.
9. Scroll right and press **Save**.
10. Press the left button until the **Hoistway Access** menu displays.

11. Scroll and select **Top Opening**.

12. Scroll and select the top floor just below the hoistway.

13. Scroll right and press **Save**.

14. Press the left button until the **Hoistway Access** menu displays.

15. Scroll and select **Allowed Distance Bottom**.

16. Scroll and select the distance from the car to the pit.

17. Scroll right and press **Save**.

18. Press the left button until the **Hoistway Access** menu displays.

19. Scroll and select **Bottom Floor**.

20. Select the bottom floor just above the pit.

21. Scroll right and press **Save**.

22. Press the left button until the **Hoistway Access** menu displays.

23. Scroll and select **Bottom Opening**.

24. Scroll and select the bottom floor the car opens just above the pit.

25. Scroll right and press **Save**.

26. Press the left button until the **Hoistway Access** menu displays.

27. Scroll and select **Hoistway Access Slide Distance**.

28. Enter the maximum distance the car is allowed to be within the top or bottom door zone.

29. Scroll right and press **Save**.

17.1 Soft Limit

The Soft Limit distance sets the distance away from the terminal floor that the car will switch to inspection terminal speed during manual operation.

Follow the steps to set the Soft Limit distance:

1. Navigate to **Main Menu | Setup | S-Curve | Soft Limit Dist Up or Down**.

2. Scroll and set the distance the at top or bottom terminal floor in which the car switches to Inspection Terminal speed during manual operation.

3. Scroll right and press **Save**.

18 Car To Lobby Floor Mode

In Car To Lobby operation, the elevator control system services all latched car calls, bypasses latched hall calls, then directs the car to the designated Car To Lobby floor.

Follow the steps below to select the Car to Lobby Floor:

1. Navigate to **Main Menu | Setup | Miscellaneous | Car to Lobby Floor**.
2. Set the lobby floor the car automatically travels to.
3. Scroll right and press **Save**.

19 Wander Guard Mode

Wander Guard is a security mode of operation that prevents unauthorized individuals from accessing designated floors. The car continues normal operation but skips floors assigned to Wander Guard. If the car does stop at a restricted floor, the doors remain open and the car does not proceed until conditions are cleared.

To set the controller to Wander Guard mode, refer to the **C4 Inputs & Outputs**.

Follow the steps below to set the Wander Guard floors:

1. Navigate to **Main Menu | Setup | Floors | Wander Guard**.
2. Set the Wander Guard floors.
3. Scroll right and press Save.

20 Sabbath Mode

In Sabbath operation, the elevator controller is specialized to accommodate the needs of individuals observing the Sabbath by automatically operating the elevator without direct human intervention.

The Sabbath operation can be activated either by a key switch or by the controller when the clock reaches the Sabbath start time. Once in Sabbath operation, the elevator car functions automatically by going to each door that has a valid Sabbath opening and skipping those without a valid Sabbath opening. Sabbath operation has a door dwell timer different than the standard door dwell time. The car exits Sabbath operation if the Sabbath key is turned off or once the controller clock reaches the Sabbath end time.

Refer to the **C4 Parameter List** for full parameter details.

20.1 Procedure to Set Sabbath Operation

There are three setup options:

- Key Enable Only
- Timer Enable Only
- Key or Timer Enable

Follow the steps below to set the Sabbath Operation:

1. Navigate to **Main Menu | Setup**.

2. To setup the Sabbath operation by Key Enable Only, Timer Enable Only, or Key or Timer Enable:

   i. If the Sabbath operation is being set by Key Enable Only, go to step 3.
   ii. If the Sabbath operation is being set by Timer Enable Only, go to step 35.
   iii. If the Sabbath operation is being set by Key or Timer Enable, go to step 51.

3. Navigate to **Setup | Setup I/O**.

4. Select **Setup Inputs**.

5. From the **Select Board** menu, scroll and select the board the Sabbath key is wired to.

6. From the **Input** menu, scroll and select the configuration to be used as the Sabbath input.

   NOTE: the X input is a representation of a number between 3-8.

7. Scroll right.

8. Scroll and select **Auto Operation**.

9. Scroll right.

10. Scroll and select **Sabbath**.

11. Scroll right and press **Save**.

12. Press the left button and navigate to **Setup | Sabbath**.

13. To setup the Sabbath operation with Key Enable Only or Key or Timer Enable Only:

    i. If the Sabbath Operation is being setup for Key Enable Only, go to step 14.
    ii. If the Sabbath Operation is being setup for Key or Timer Enable, go to step 18.

14. Scroll and select **Key Enable Only**.

15. Press the up button and select **ON**.

16. Scroll right and press **Save**.

17. Press the left button until the Sabbath menu is displayed.

18. Select **Floors Opening (F)**.

19. Scroll and select the front doors for each floor that opens during Sabbath.

    NOTE: The doors that should open must be set to On.

20. Scroll right and press **Save**.

21. Press the left button until the **Sabbath** menu is displayed.

22. Scroll and select **Floors Opening (R)**.

23. scroll and select the rear doors for each floor that opens during Sabbath.

24. Scroll right and press **Save**.

25. Press the left button until the **Sabbath** menu is displayed.

26. Scroll and select **Destinations Up**.

27. Scroll and select the up destination for the Sabbath.

    - Ensure the highest down destination is below the highest up destination.
    - Ensure the lowest down destination is above the lowest up destination.
    - Up destinations should be different from down destinations.

28. Scroll right and press **Save**.

29. Press the left button until the **Sabbath** menu is displayed.

30. Scroll and select **Destinations Down**.

31. Scroll and select the down destination for the Sabbath.

32. To setup the Sabbath Operation for Key Enable Only, Timer Enable Only, or Key or Timer Enable:

    i. If the Sabbath Operation is being setup for Key Enable Only, go to step 34.
    ii. If the Sabbath Operation is being setup for Timer Enable Only, go to step 34.
    iii. If the Sabbath Operation is being setup for Key or Timer Enable, go to step 33.

33. To setup the Sabbath Operation for Key or Timer Enable complete:

    i. If the setup for Sabbath for Key or Timer Enable is complete, go to step 34.
    ii. If the setup for Sabbath for Key or Timer Enable is not complete go to step 38.

34. Scroll right and press **Save**. The process ends.

35. Navigate to **Setup | Sabbath**.

36. Scroll and select **Timer Enable Only**.

37. Press the up button and select **ON**.

38. Scroll right and press **Save**.

39. Press the left button until the **Sabbath** menu is displayed.

40. Scroll and select **Friday Start Time**.

41. Set the time the Sabbath starts.

42. Scroll right and press **Save**.

43. Press the left button until the **Sabbath** menu is displayed.

44. Scroll and select **Saturday End Time**.

45. Set the time the Sabbath ends.

46. Scroll right and press **Save**.

47. Press the left button until the **Sabbath** menu is displayed.

48. Scroll and select **Door Dwell Timer**.

49. Set the time the door stays open.

50. Scroll right and press **Save**. Go to step 17.

51. Navigate to **Setup | Sabbath**.

52. Scroll and select **Key or Timer Enable**.

53. Press the up button and select **ON**.

54. Scroll right and press **Save**.

55. Press the left button until the **Setup** menu is displayed and go to step 3.

21 VIP Mode

A car configured for VIP will be selected when this mode of operation is activated by a specially configured Hall board.

- The car services all existing Car Calls and ignores all Hall Calls until all Car Calls have been cleared.
- Once all Car Calls have been serviced, the car responds to the VIP Hall Call and opens the doors.
- There is a five-second minimum allowed for a new Car Call entry.
- After all Car Calls have been serviced, the car exits VIP mode.

22 Active Shooter Mode

Active Shooter is a type of auto operation that prevents a shooter from having easy access to an elevator. This mode is enabled via a key switch.

When Active Shooter is enabled:

- The car automatically closes its doors.
- The PI Display alternates between the floor label and "CR" (Crisis).
- Cars do not respond to any Hall Calls or Car Calls.
- All cars in the group are recalled to an alternate recall floor; the doors open and remain open.

23 Marshal Mode

Marshal Mode is a type of auto operation that removes the car from group service. It is enabled via a key switch input.

When Marshal Mode is enabled:

- The car clears all latched Car Calls and Hall Calls.
- The car stops at the next available landing.
- Both Front and Rear doors remain closed, regardless of passengers inside.
- The car ignores all Car Calls and Hall Calls, and the Door Open and Door Close buttons are disabled.
- The marshal uses the remote controller to issue car calls.

Marshal Mode behavior:

- Upon reaching the landing, the doors stay closed.
- The marshal must press and hold the Door Open button until the doors are fully open. If released early, the doors close again.
- Once the doors are fully open, they remain open.
- To close the doors, the marshal must press and hold the Door Close button until the doors are fully closed. If released early, the doors reopen.
- If multiple car calls are made, the car waits 10 seconds at the landing for the Door Open button to be pressed. If not pressed within this time, the car proceeds to the next latched car call.
- If the Door Open button is pressed in time, the car retains the remaining latched car calls and dispatches only after the doors are fully closed.

To disable Marshal Mode:

- Turn off the key switch input. The car rejoins the group and resumes normal operation.

To set the controller to Marshal Mode, refer to the **C4 Inputs & Outputs**.

24 Swing Mode

Swing Operation removes a car from the group and allows it to respond exclusively to calls from the designated swing riser. The car will first complete all existing car calls before servicing the swing hall call.

24.1 Configuring Swing Mode Input

If Swing Operation is activated by a switch, the controller inputs must be configured accordingly.

Follow these steps to configure the inputs for Swing Operation:

1. Navigate to **Main Menu | Setup | Setup I/O | Setup Inputs**.
2. From the **Select Board** menu, scroll and select the board to be assigned.
3. From the **Input** menu, scroll and select an unused input.
4. Scroll right.
5. Scroll and select **Auto Operation**.

6. Scroll right.

7. Scroll and select **Enable Swing**.

8. Scroll right and press **Save**.

9. Wire the key switch to the input.

When 24 VDC is applied to this input, the car enters Swing Operation and responds only to calls from the designated riser.

24.2 Calls Enable Swing

To configure Swing Operation to be activated by the swing riser call, follow these steps:

1. Navigate to **Main Menu | Setup | Swing | Calls Enable Swing**.

2. Set to **ON**.

3. Scroll right and press **Save**.

24.3 Swing Opening

Swing doors, typically used in high-traffic areas, open and close automatically. Swing openings can be enabled on multiple landings.

To configure landings for front or rear Swing openings:

1. Navigate to **Main Menu | Setup | Door Setup | Swing Openings (Front or Rear)**.

2. Select the landings where swing openings are enabled.

3. Scroll right and press **Save**.

24.4 Swing Call Mask

The Swing Call Mask identifies which hall boards' function sets are recognized as special swing hall calls. Swing calls activate Swing Operation for the designated car(s).

Configure the Swing Call Mask as follows:

1. Navigate to **Main Menu | Setup | Group Setup | Swing Call Mask**.

2. Select the cars assigned to Swing Operation.

3. Scroll right and press **Save**.

24.5 Stay Active in Group

When a car is set to stay active in the group, it can be operated by any riser during Swing Operation. Inputs must be configured – refer to section **24.1 Configuring Swing Mode Input** if not set.

To enable this feature:

1. Navigate to **Main Menu | Setup | Swing | Stay In Group**.
2. Set to **ON**.
3. Scroll right and press **Save**.

24.6 Idle Timer

The Idle Timer determines how long the car remains in Swing Operation after servicing all calls. Inputs must be configured – refer to section **24.1 Configuring Swing Mode Input** if not set.

To configure the Idle Timer:

1. Navigate to **Main Menu | Setup | Swing | Idle Timer**.
2. Set the idle time.
3. Scroll right and press **Save**.

25 Emergency Power

Emergency Power Operation (EPO) enables elevators to provide limited, prioritized service during a building power failure, using a backup power source such as a generator.

When EPO is active, each elevator in a group is individually recalled to a designated recall floor based on a predefined priority. After recall, the car doors remain open for a set duration (defined by the Door Recall Time), then close automatically. The system then allows a specified number of cars to resume operation at the designated Emergency Power speed.

25.1 Key Parameters

The key configuration parameters that define how the Emergency Power Operation behaves for both single and multiple group elevator systems are as follows:

- **08-0145:** Sets the group priority in multi-group systems.
- **08-0186:** Sets the maximum number of cars that can operate under Emergency Power per group.
- **08-0129:** Sets the car priority in a single-group system when the Auto Select input is active and when the Recall operation is active.
- **08-0230:** Sets the total number of cars across all interconnected groups that can operate on Emergency Power.

25.2 Emergency Power Inputs

The controller relies on several input signals to manage elevator behavior during Emergency Power events. Each input plays a specific role in transitioning the system between different states.

Input Name	Description
Emergency Power On	Signals the car to enter EPO. The car remains stopped until “Generator Up to Speed” is active.
Generator Up to Speed	Signals that the generator is ready and supplying power. Once active, selected cars can resume Normal operation.
Pre-Transfer	Switches from Emergency to Normal power.
Select [1-8]	These manual inputs are used to release specific cars into Normal operation after recall.
Auto Select	When the manual input is inactive, a predetermined number of cars automatically return to Normal operation once all recalls are completed.

25.3 Emergency Power Outputs

Outputs provide feedback signals that indicate the current state or actions of the elevators during Emergency operation.

Output Name	Description
Lamp At Recall	Activates when the car has completed Emergency Power recall.
Lamp On EP	Indicates that the car is operating under Emergency Power operation.
Select [1-8]	Indicates that a car is either recalling or has been released to operate normally during emergency power.

25.4 Operation Modes

During an emergency power event, the system can operate in either simplex or multi-group mode. This section explains how each mode behaves and how to configure the number of cars permitted to run on emergency power.

25.4.1 Simplex Operation

In simplex operation, when an emergency power event occurs, the car performs an automatic recall to its assigned Recall Floor. Once the car reaches the Recall Floor, the doors open and remain open for a programmed duration. After this time expires, the doors close automatically. The car may then resume service at the configured Emergency Power speed.

25.4.2 Multiple Group Operation

In multi-group operation, during an emergency power event, the cars within the affected group are recalled sequentially, following their defined priority order, to the designated Recall Floor. After all recalls have been completed, only the number of cars that the generator can support will be permitted to resume operation.

When operating in multi-group mode, Emergency Power management is coordinated across all interconnected elevator groups. The system maintains balanced operation while ensuring that both per-group and system-wide limits on the number of active cars are not exceeded.

25.5 Number of Active Cars

The maximum number of cars permitted to operate under Emergency Power per group can be configured.

To set the Number of Active Cars, follow these steps:

1. Navigate to **Main Menu | Setup | E-Power | Number Active Cars**.

2. Choose the desired number of cars.

3. Scroll right and press **Save**.

25.6 Setting the Priority Car

The priority car is the first car recalled and allowed to operate during emergency power. This car takes precedence when releasing cars for normal operation under EPO.

To set the Priority Car, follow these steps:

1. Navigate to **Main Menu | Setup | E-Power | Priority Car**.

2. Choose the desired car.

3. Scroll right and press **Save**.

25.7 Pretransfer Stall Behavior

This option controls how cars behave during a pretransfer event when switching from Emergency to Normal power.

- **Enabled (ON):** Cars stop immediately at their current position and enter a faulted state when the Pretransfer input is active.

- **Disabled (OFF):** Cars travel to the nearest floor with a valid opening.

Use this setting when the system wiring includes a Pretransfer input to pause cars during the power transition.

To enable or disable Pretransfer Stall, follow these steps:

1. Navigate to **Main Menu | Setup | E-Power | Pretransfer Stall**.

2. Choose **ON** or **OFF**.

3. Scroll right and press **Save**.

25.8 Privileged Modes

Each car operates independently. If a car remains idle during recall, it is taken out of service until the emergency power service cycle is complete. Privileged modes of car operation can postpone recalls until the car has been idle for 2-3 minutes, as defined by parameter **08-0232**. If the emergency power recall is repeated for any reason, privileged cars that have already postponed the original recall cycle will not be delayed again. For the list of parameters, refer to the **C4 Parameter List**.

The following is the order of privileged modes of operation:

- Fire Phase 1 and Phase 2 Operation
- EMS Phase 1 and Phase 2 Operation
- Manual Modes of Operation (Inspection States)
- Independent Service Operation
- Attendant Operation

25.8.1 Fire Phase 1 and Phase 2 Operation

Fire Phase 1 and Phase 2 are modes of operation triggered when smoke or heat is detected. See section **27 Fire** for more details.

25.8.2 EMS Phase 1 and Phase 2 Operation

EMS Phase 1 and Phase 2 are modes of operation that allow medical personnel to control the elevator during a medical emergency. See section **29 Emergency Medical Service** for more information.

25.8.3 Cars in Manual Modes of Operation (Inspection States)

Cars remain idle for 2-3 minutes after emergency power is activated. If a car is switched to or from **MR**, **CT**, **IC**, or **HA** inspection mode while emergency power is active, the entire emergency power recall and allocation process restarts with the updated car configuration.

25.8.4 Independent/Attendant Service Operation

Cars operating in Independent or Attendant Service remain idle for 2–3 minutes from the start of the emergency power cycle. These cars are not recalled but are treated as normal cars during allocation. If selected, they return to their original service mode.

25.9 Intergroup Communication

Communication between groups is enabled via a Riser board configured as Riser 4. DIP switches 1, 2, and 8 must be ON.

- **CAN 1** of a Riser 4 board connects to the car-group GROUP network.
- **CAN 2** of a Riser 4 board connects in parallel with the CAN 2 of other Riser 4 boards in interconnected groups. This network is referred to as the Intergroup network.

During emergency power operation:

- The Riser 4 board disables all hall network traffic on CAN 2 and maintains only the Intergroup network.
- It continues to communicate with other Riser 4 boards in different groups and is notified when a group goes offline.
- If a group does not respond within 30 seconds, it is marked as offline.
- If a group is added to the Intergroup network during emergency power, all groups repeat the recall process.

26 Earthquake

The Earthquake Seismic Event and Earthquake Counterweight Derail Event determine car positioning based on the nature of the event.

26.1 Enable Earthquake

When seismic activity is detected, the elevator car stops at the nearest floor and the doors open automatically to allow passengers to safely exit.

Follow the steps below to enable Earthquake mode:

1. Navigate to **Main Menu | Setup | Earthquake | Enable Eq**.

2. Select **Enable Earthquake**.

3. Scroll right and press **Save**.

26.2 Set CW Position

Counterweights provide a balancing force for the car's payload. Their position is set to the midpoint of the hoistway.

Follow the steps below to set the Counterweight Position:

1. Manually move the car to the mid-point location.

   NOTE: Place the car in CT Inspection Mode and move it so that it aligns with the center of the counterweight.

2. Navigate to **Main Menu | Setup | Earthquake | Set CW Pos**.

3. Select the position. This stores the car's current location as the counterweight midpoint.

4. Scroll right and press **Save**.

26.3 Earthquake Status

The Earthquake Status menu displays the input status of fire, smoke, and earthquake-related emergency signals.

Follow the steps to view the Fire/Earthquake Status.

1. Navigate to **Main Menu | Status | Inputs | Fire/Earthquake**.

2. View the status of all selected fire and earthquake emergency services.

27 Fire

Fire Phase 1 and Fire Phase 2 are modes that allow control of the elevator car(s) during a fire situation.

- Fire Phase 1 is activated when smoke is detected – either automatically via a smoke sensor or manually using a key switch. The elevator car(s) will travel to a designated recall floor with the doors open. If the smoke is detected at the recall floor, the car(s) will proceed to an alternate landing.If the fire is in the Machine Room (MR), the shunt operation removes main power from the controller. The MR board triggers an external shunt disconnect device after the car has reached the recall floor and the doors have opened.

  The shunt operation follows this sequence:

- A smoke sensor is activated.
- The car(s) travel to the recall floor and open the doors.
- The shunt output activates and opens the Shunt Bypass switch, disconnecting power from the main disconnect.

- Fire Phase 2 allows firefighters or emergency personnel to take control of the elevator from inside the car using a key switch.

27.1 Main Recall

The Main Recall is the designated floor the car is automatically returned to during a fire event.

27.1.1 Main Recall Floor

Follow the steps below to set the Main Recall Floor:

1. Navigate to **Main Menu | Setup | Fire | Main Recall | Floor**.
2. Enter the designated recall floor.
3. Scroll right and press **Save**.

27.1.2 Main Recall Door

Follow the steps below to set the Main Recall Door:

1. Navigate to **Main Menu | Setup | Fire | Main Recall | Opening**.
2. Enable or disable rear door as needed.
3. Scroll right and press **Save**.

27.2 Alternate Recall

If sensors detect fire at the designated main recall floor, the car will instead travel to a designated alternate recall floor.

27.2.1 Alternate Recall Floor

Follow the steps below to set the Alternate Recall Floor:

1. Navigate to **Main Menu | Setup | Fire | Alt Recall | Floor**.
2. Enter the alternate recall floor.
3. Scroll right and press **Save**.

27.2.2 Alternate Recall Door

Follow the steps below to set the Alternate Recall Door:

1. Navigate to **Main Menu | Setup | Fire | Alt Recall | Opening**.

2. Enable or disable rear door as needed.

3. Scroll right and press **Save**.

27.3 Main Smoke

Main Smoke refers to the scenario where the car is recalled to a designated landing due to smoke detection in the main lobby.

27.3.1 Main or Alternate

When smoke is detected, the car is recalled to the main landing. If the system is configured to check for smoke on that floor and smoke is present, the car travels to a designated alternate landing instead.

The following procedure outlines the conditions under which the car travels to either the main or alternate landing when smoke is detected:

1. Navigate to **Main Menu | Setup | Fire | Main Smoke Action | Main or Alt**.

2. Configure the alternate or main floor for the Main Smoke as needed.

3. Scroll right and press **Save**.

27.3.2 Flash Fire Hat

If the Flash Fire Hat feature is enabled during a Main Smoke event, a fire hat symbol on the panel will flash when smoke is detected.

Follow the steps below to enable the Flash Fire Hat.

1. Navigate to **Main Menu | Setup | Fire | Main Smoke Action | Flash Fire Hat**.

2. Set to **ON**.

3. Scroll right and press **Save**.

27.3.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller when smoke is detected in the main lobby.

The following procedure outlines how to configure the system parameters to respond appropriately to smoke detection in the main lobby:

1. Navigate to **Main Menu | Setup | Fire | Main Smoke Action | Shunt Trip**.

2. Set to **ON**.

3. Scroll right and press **Save**.

27.4 Alternate Smoke

Alternate Smoke refers to the scenario where the car is recalled to a designated alternate landing when smoke is detected in the main lobby.

27.4.1 Main or Alternate

When smoke is detected, the car initially travels to the main landing. If the system is configured to evaluate smoke presence on that floor and smoke is detected, the car then proceeds to the designated alternate landing.

The following procedure outlines the conditions under which the car travels to either the main or alternate landing when smoke is detected in the main lobby:

1. Navigate to **Main Menu | Setup | Fire | Alt Smoke Action | Main or Alt**.
2. Configure the alternate or main floor for the Main Smoke as needed.
3. Scroll right and press **Save**.

27.4.2 Flash Fire Hat

If the Flash Fire Hat feature is enabled during an Alternate Smoke event, a fire hat symbol on the panel will flash when smoke is detected.

Follow the steps below to enable the Flash Fire Hat:

1. Navigate to **Main Menu | Setup | Fire | Alt Smoke Action | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.4.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller when smoke is detected in the main lobby.

The following procedure outlines how to configure the system parameters to respond appropriately to smoke detection in the main lobby:

1. Navigate to **Main Menu | Setup | Fire | Alt Smoke Action | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.5 Hoistway Smoke

Hoistway Smoke refers to the scenario where the car is recalled to a designated landing when smoke is detected in the hoistway.

27.5.1 Main or Alternate

When smoke is detected in the hoistway, the car is recalled to the main landing. If the system is configured to evaluate smoke conditions on that floor and smoke is present, the car then travels to a designated alternate landing.

The following procedure outlines how the system determines whether the car travels to the main or alternate landing when Hoistway Smoke is detected:

1. Navigate to **Main Menu | Setup | Fire | Hoistway Smoke Action | Main or Alt**.
2. Configure the alternate or main floor for the Hoistway Smoke as needed.
3. Scroll right and press **Save**.

27.5.2 Flash Fire Hat

If the Flash Fire Hat feature is enabled during a Hoistway smoke event, a Fire Hat symbol on the panel will flash when smoke is detected.

Follow the steps below to enable the Flash Fire Hat:

1. Navigate to **Main Menu | Setup | Fire | Hoistway Smoke Action | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.5.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller when smoke is detected in the Hoistway.

The following procedure outlines how to configure the system parameters to respond appropriately to smoke detection in the Hoistway:

1. Navigate to **Main Menu | Setup | Fire | Hoistway Smoke Action | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.6 MR Smoke

MR Smoke refers to the condition where the car is recalled to a designated landing due to smoke detection in the Machine Room.

27.6.1 Main or Alternate

When smoke is detected in the Machine Room, the car is recalled to the main landing. If the system is configured to assess smoke on that floor and smoke is present, the car then travels to a designated alternate landing.

The following procedure outlines how the system determines whether the car travels to the main or alternate landing when Machine Room smoke is detected:

1. Navigate to **Main Menu | Setup | Fire | MR Smoke Action | Main or Alt**.
2. Configure the alternate or main floor for the MR Smoke as needed.
3. Scroll right and press **Save**.

27.6.2 Flash Fire Hat

If the Flash Fire Hat feature is enabled during a MR smoke event, a fire hat symbol on the panel will flash when smoke is detected.

Follow the steps below to enable the Flash Fire Hat:

1. Navigate to **Main Menu | Setup | Fire | MR Smoke Action | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.6.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller when smoke is detected in the Machine Room.

The following procedure outlines how to configure the system parameters to respond appropriately to smoke detection in the Machine Room:

1. Navigate to **Main Menu | Setup | Fire | MR Smoke Action | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.7 Recall Key

The Recall Key is used by fire service personnel to control the elevator during a fire emergency. It is typically located on the hall panel – usually in the main lobby – and inside the car. The key activates emergency landing operations as part of Fire Service Mode.

If the Flash Fire Hat feature is enabled, a Fire Hat symbol on the panel will flash when the recall key is used and smoke has been detected.

The following procedure outlines how to enable the Flash Fire Hat feature:

1. Navigate to **Main Menu | Setup | Fire | Recall Ket | Flash Fire Hat**.
2. Set to **ON**.

3. Scroll right and press **Save**.

27.8 Pit Smoke

Pit Smoke refers to the condition where the car is recalled to a designated landing when smoke is detected in the pit area.

27.8.1 Main or Alternate

When smoke is detected in the pit, the car is recalled to the main landing. If the system is configured to evaluate smoke on that floor and smoke is present, the car travels to a designated alternate landing.

The following procedure outlines how the system determines whether the car travels to the main or alternate landing when pit smoke is detected:

1. Navigate to **Main Menu | Setup | Fire | PIT Smoke | Main or Alt**.
2. Configure the alternate or main floor for the PIT Smoke as needed.
3. Scroll right and press **Save**.

27.8.2 Flash Fire Hat

If the Flash Fire Hat feature is enabled during a PIT smoke event, a fire hat symbol on the panel will flash when smoke is detected.

Follow the steps below to enable the Flash Fire Hat:

1. Navigate to **Main Menu | Setup | Fire | PIT Smoke | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.8.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller in case of fire in the Machine Room.

The following procedure outlines how to configure the system parameters to respond appropriately to smoke detection in the pit:

1. Navigate to **Main Menu | Setup | Fire | PIT Smoke | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.9 Alt Machine Room

Alternate machine room parameters are configured when a group of elevators has a split machine room and hoistway layout.

27.9.1 Enable Alternate Machine Room

When secondary machine room operation is required, the Alternate Machine Room Smoke feature must be enabled.

The following procedure outlines how to enable alternate machine room smoke detection:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | Enable Alt. MR**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.9.2 Hoistway 2 Smoke

When a group of elevators has a split hoistway configuration, the Hoistway 2 Smoke option must be enabled to support smoke detection in the secondary hoistway.

27.9.2.1 Main or Alternate

The following procedure outlines how to configure the system to determine whether the car travels to the main or alternate landing when Hoistway 2 smoke is detected:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | HW 2 Smoke**.
2. Select **Main** or **Alt**.
3. Set to main or alternate recall landing.
4. Scroll right and press **Save**.

27.9.2.2 Flash Fire Hat

The following procedure outlines how to flash the Fire Hat when the Alternate Hoistway Smoke is triggered:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | HW 2 Smoke | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.9.2.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller in case of a fire in the Machine Room.

The following procedure outlines how to configure the Shunt Trip function when Alternate Hoistway Smoke is triggered:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | HW 2 Smoke | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.9.3 MR 2 Smoke

The MR 2 smoke is the smoke sensor located in the secondary machine room.

27.9.3.1 Main or Alt

The following procedure outlines how to configure the system to send the car to either the main or alternate landing when MR 2 Smoke is triggered:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | MR 2 Smoke**.
2. Select **Main** or **Alt**.
3. Set to main or alternate recall landing.
4. Scroll right and press **Save**.

27.9.3.2 Flash Fire Hat

The following procedure outlines how to flash the Fire Hat when the Alternate Machine Room Smoke is triggered:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | MR 2 Smoke | Flash Fire Hat**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.9.3.3 Shunt Trip

The Shunt Trip function is designed to activate a shunt output that trips a breaker, cutting off main power to the controller in case of a fire in the Machine Room.

The following procedure outlines how to configure the Shunt Trip function when Alternate Machine Room Smoke is triggered:

1. Navigate to **Main Menu | Setup | Fire | Alt. Machine Room | MR 2 Smoke | Shunt Trip**.
2. Set to **ON**.
3. Scroll right and press **Save**.

27.10 Advanced Configs

The Advanced Configuration menu provides a simplified way to configure specific fire service parameters within the system.

For detailed descriptions of each parameter, refer to the **C4 Parameter List**.

The following parameters can be enabled or disabled through the Advanced Configuration menu:

- FIRE RESET TO EXIT PHASE1
- DISA DR RESTRICTOR PHASE2
- FIRE PHASE2 SWING REOPEN DISA
- FIRE PHASE2 EXIT ONLY AT RECALL FLR
- FIRE IGNORE LOCKS JUMPED ON PHASE2
- FIRE OR IC STOP SWITCH KILLS DR ON FIRE MODES
- FIRE DOL TO EXIT PHASE2
- FIRE ALLOW RESET WITH ACTIVE SMOKE
- FIRE HAT FLASH IGNORE ORDER
- FIRE MOMENTARY DCB
- FIRE FLASH LOBBY LAMP
- FIRE REMOTE AND MAIN TO OVERRIDE SMOKE
- FIRE ENABLE PHE ON PHASE2
- FIRE DR OPEN ON HOLD
- DISA BYP IC STOP
- COURION FIRE1 ACTIVE
- EMS FIRE 1 ACTIVE
- BYP FIRESRV
- FIRE RECALL TO MAIN AFTER PHASE 2
- FIRE2 SWING REOPEN
- FIRE DISA LATCH SMOKES
- FIRE DISA LATCH LOBBY KEY
- FIRE DISA LTACH MAIN RECALL
- FIRE RESET ON TRANSITION
- FIRE EXIT PH2 WITHOUT PH1 RCL
- FIRE 2 ACTIVE ALWAYS ON DURING FP2
- CLOSE DOOR WHEN PHE BYPASSED ON FF2
- FIRE2 BYPASS ON MR AND HA SMOKE
- FIRE1 DOB HC ENABALED DWELL 1 MIN
- ONLY EXIT FP1 ON MAIN LANDING
- FIRE2 CANCEL BUTTON REOPEN DOOR
- FIRE2 CLOSE DOOR WHEN NO DOB
- FIRE SWITCH 2 POSITIONS
- FIRE NO DCL TO EXIT PHASE2
- FIRE1 RESET EXTINGUISHES LOBBY LAMP AT ALT FLOOR
- TURN OFF AT RECALL OUTPUT ON FP2
- ALLOW SHUNT TRIP ON INSPECTION MODE
- ALLOW SHUNT TRIP ON FIRE I ALTERNATE LANDING
- ALLOW SHUNT TRIP ON EMS

To configure parameters listed in Advanced Configuration:

1. Navigate to **Main Menu | Setup | Fire | Advanced Configuration**.

2. In the **Smoke Configuration** menu, scroll through the parameters.

- The parameter name scrolls to the left automatically.
- Select **ON** or **OFF** for the desired parameter.

3. Scroll right and press **Save**.

28 Flood

Flooding may occur due to natural disasters or other incidents, such as broken pipes. When a flood sensor detects water, an alarm is triggered and logged.
If the flood sensor is active, the elevator is limited to traveling to floors above the designated flood floor. If the car happens to be at/below the flood floor during a flood detection, the system will automatically move the car to the floor above the flood floor.

28.1 Number of Floors

When flooding is detected, the flood sensor switch sends a signal to notify the controller which floors to avoid during operation.

The following procedure describes how to set the number of floors the elevator is to avoid from the bottom landing:

1. Navigate to **Main Menu | Setup | Flood | Number of Floors**.
2. Set the floors to avoid.
    - For example, a value of 001 would cause the elevator to avoid the bottom landing.
3. Scroll right and press **Save**.

28.2 Okay to Run

The Okay to Run option allows the elevator to continue automatic operation above flooded floors.

The following procedure describes how to enable this option:

1. Navigate to **Main Menu | Setup | Flood | Okay to Run**.
2. Set to **ON** to continue running in Automatic operation.
3. Scroll right and press **Save**.

28.3 Override Fire

In certain emergencies, flooding operation may need to override fire operation.

The following procedure describes how to enable flood override on fire service:

1. Navigate to **Main Menu | Setup | Flood | Override Fire**.
2. Set to **ON**.
3. Scroll right and press **Save**.

29 Emergency Medical Service

Emergency Medical Service Phase 1 and Phase 2 services allow for elevator operation during medical emergencies.

- **EMS Phase 1:** Allows emergency medical personnel to make a hall call via key switch or button. The car bypasses all floors and travels directly to the designated landing. If Phase 2 is not initiated within the set Phase 1 Exit Delay time, the car returns to normal operation. Fire Phase 1 overrides EMS Phase 1.

- **MA EMS 1:** Enables a hall call to a predefined recall floor using the MA – EMS1 input. The recall floor can be set using parameter 08-0272 or through the user interface.

- **EMS Phase 2:** Allows medical personnel to hold doors open using a key switch, based on the Phase 2 Exit Delay setting, to safely remove a patient.

29.1 AllowPh2WithoutPh1

This setting allows EMS Phase 2 to be enabled directly without first enabling Phase 1.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Allowph2withoutph1**.

2. Scroll and select if the car is set to run in a medical emergency.

3. Scroll right and press **Save**.

29.2 Exit Ph2 Any Floor

This setting allows the car to exit EMS Phase 2 on any floor instead of only on the entry floor.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Exit Ph2 Any Floor**.

2. Scroll and select if the controller can exit phase 2 on any floor.

3. Scroll right and press **Save**.

29.3 Fire Overrides Ph1

This option allows fire operation to override EMS Phase 1 service.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Fire Overrides Ph1**.

2. Scroll and select if the fire overrides Phase 1 EMS operation.

3. Scroll right and press **Save**.

29.4 Ph1 Exit Delay

This parameter sets the time the car remains in EMS Phase 1 before returning to normal operation.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Ph1 Exit Delay**.
2. Set the time the car remains at a landing prior to normal operation.
3. Scroll right and press **Save**.

29.5 Ph2 Exit Delay

This sets the time the car remains in EMS Phase 2 before exiting the mode and closing the doors.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Ph2 Exit Delay**.
2. Set the delay time prior to the doors closing.
3. Scroll right and press **Save**.

29.6 Ph1 Recall Floor

This sets the recall floor for MA EMS 1 operation.

Procedure:

1. Navigate to **Main Menu | Setup | EMS | Ph1 Recall Floor**.
2. Set the recall floor.
3. Scroll right and press **Save**.

30 Attendant

Attendant operation is an automatic mode in which a designated attendant manually controls the car's movement. Inside the car, UP and DOWN lamps indicate whether hall calls are latched above or below the current floor. The attendant uses these lamps along with UP and DOWN direction buttons to determine the next direction of travel, picking up and dropping off passengers accordingly.

When the elevator arrives at a landing, the car doors should be opened manually and must be manually closed by the attendant via the door open and door close buttons, respectively.

30.1 Dispatch Timeout

Each car is programmed to respond to a hall call within a specified time. If the car does not respond within that time, the call is reassigned to another car in the group.

Follow the steps below to set the Dispatch Timeout:

1. Navigate to **Main Menu | Setup | Attendant | Dispatch Timeout**.

2. Set the time for another car to take over the hall call.

3. Scroll right and press **Save**.

30.2 Buzzer Time

A buzzer may sound for a set duration after a hall call is placed to alert the attendant.

Follow the steps below to set the Buzzer Time:

1. Navigate to **Main Menu | Setup | Attendant | Buzzer Time**.

2. Set the duration for which the buzzer rings after a hall call is made.

3. Scroll right and press **Save**.

31 Car Call Sequential Step Scanning

Elevator Car Call Sequential Step Scanning is a floor selection feature designed to improve accessibility.

This function enables users to select a destination floor using only two buttons – Up Scan and Down Scan. Instead of pressing a specific floor number, users navigate through available floors sequentially in the desired direction.

The scan buttons are located adjacent to or immediately above the emergency control panel, ensuring convenient reach for users with limited mobility.

This scanning system ensures that passengers with mobility impairments can independently and confidently operate the elevator's car call interface without needing assistance.

Floor selection is managed through these main interface elements:

- **Up Scan Button:** Scrolls through floors above the current floor.
- **Down Scan Button:** Scrolls through floors below the current floor.
- **Car Call Button Lamps:** Used as cursors to indicate the currently selected floor.

When a scan button is pressed:

1. Scanning starts from the current floor.

2. The CCB lamp for the current floor flashes to indicate that it is under selection.

3. If the button remains pressed:

    - The system automatically advances to the next floor, moving upward or downward depending on which button is held.
    - The lamp corresponding to each new floor flashes as it becomes the active selection.

4. If the Up or Down Scan button is released and not pressed again for 2 seconds, the current flashing floor is registered as a car call, only if:

   - The elevator has access to that floor (e.g., the door can open), and
   - The floor is not secured or restricted. If the selected floor is inaccessible or secured, the car call will not be registered, even if the 2-second timeout condition is met.

32 Independent Service

In Independent Service mode, the selected elevator car is removed from the group and operates independently. It no longer responds to group Hall Calls or normal dispatching logic. Instead, it follows its own call system, free from the group's optimization routines. Independent Service mode is activated through an input.

33 Emergency Recall

In Emergency Recall mode, the control system bypasses all Car and Hall Calls, automatically sending the car(s) to a designated recall landing. The doors open and remain open.

- **Manual Activation**: Through the local monitoring system, users may select a desired recall landing or use the default recall landing.

- **Automatic Activation**: Through virtual inputs, the car(s) travel automatically to the default recall landing.

The default recall landing is the designated alternate recall floor.

34 Phase Fault

In Phase Fault mode, the detection of a phase fault causes the car to recall automatically to the lowest landing. Once there, the doors open to release passengers.

35 Terminal Express

In Terminal Express mode, the car only accepts Hall and Car Calls from designated terminal floors.

Example: In a 10-floor building, the car may be configured to respond exclusively to calls from floors 2 and 8.

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INPUTS & OUTPUTS

1 Assigning Inputs and Outputs

Like previous Smartrise controllers, the C4 retains the ability to change, add, remove, or relocate inputs and outputs, provided they are not fixed (i.e., inputs/outputs that cannot be altered due to safety constraints). Any unused input or output can be assigned a feature if additional functionality is required or if there is a need to reassign an input or output.

Inputs can only be assigned to the **500** series, and **outputs** to the **600** series. Therefore, if an output is searched for and incorrectly attempted to be assigned to a 500-series slot, the feature will not be found.

2 Adding an Input or Output

Follow the steps below to add an input or an output:

1. Navigate to **Main Menu | Setup | Setup I/O | Setup Inputs** or **Setup Outputs**.

2. From the **Select Board** menu, choose the board to which the input or output will be assigned.

3. Use the **Up** button to scroll until an unused input or output is displayed.

   NOTE: The example below uses an input.

   The unused **Input/Output** screen shows:

   - The second and third lines as **unused**.
   - The top line displays the current input/output number.
   - In the example below, 503 indicates the currently selected input and 508 indicates the total number of inputs available on the board.

Figure 63: Unused Input / Output

4. Scroll one step to the right.

5. Scroll through and select the desired category for the input or output.

   NOTE: The category appears on the second line.

6. Scroll another step to the right.

7. Scroll through and select the desired feature to assign. The example below shows selecting **Car to Lobby** under the **Auto Operation** category for an unused input.

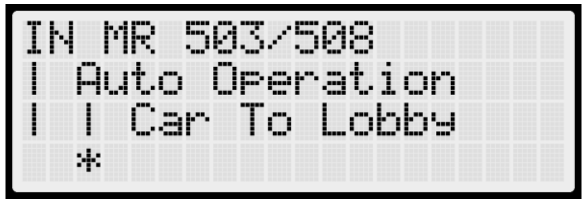


Figure 64: Category and Input Example

8. Scroll right and press **Save**.

3 Removing an Input or Output

Follow the steps below to remove an input or output:

1. Navigate to **Main Menu | Setup | Setup I/O | Setup Inputs** or **Setup Outputs**.
2. From the **Select Board** menu, choose the board to which the input or output will be assigned.
3. Scroll to select the input or output to be removed.
4. Scroll one step to the right.
5. Scroll and set the current input or output to **unused**.
6. Scroll another step to the right.
7. Scroll and set the associated category to **unused**.
8. Scroll right and press **Save**.

4 Types of Inputs

The tables below define the types of inputs by category.

Table 16: Auto Operation Inputs

Input	Description
Active Shooter	Places all cars in a group into Active Shooter Mode (must be programmed to a shared group input on each car).
Attd Byp	When active, attendant operation causes the car to skip past all hall calls between its current position and current destination.
Attd Down	Sets the next direction the car will try to move when doors are closed on attendant operation.
Attd On	Puts the car on attendant operation.
Attd Up	Sets the next direction the car will try to move when doors are closed on attendant operation.
Buffered HC	Activation of Buffered HC dispatch logic
Bypass Wanderguard Next CC	Bypasses Wanderguard from inside the car for the next car call only.
Bypass Wanderguard Next CC	Bypasses Wanderguard from inside the car for the next car call only
Car To Lobby	Captures car and sends it to the lobby where it will hold doors open.

Input	Description
Clear Latched Calls	Clears all latched Calls
Custom Operation	Puts car on custom operation mode.
DISA All HC	Disables all hall calls on the car when active.
DISA Pass Chime	Disables passing chime when active.
Distress Ack	At a central control console, a distress and light buzzer is provided for each elevator and an acknowledge button common to all elevators. Pressing the distress alarm button, triggering the emergency stop switch, if a dispatched car remains at a landing for >30 seconds, or if the electrical safety circuit is open, will turn on the distress light and pulse the distress buzzer. The Distress light will remain lit until the acknowledge button is pressed.
Distress BTN	At a central control console, a distress and light buzzer is provided for each elevator and an acknowledge button common to all elevators. Pressing the distress alarm button, triggering the emergency stop switch, if a dispatched car remains at a landing for >30 seconds, or if the electrical safety circuit is open, will turn on the distress light and pulse the distress buzzer. The Distress light will remain lit until the acknowledge button is pressed.
EMS2 On	Holds car on EMS Phase 2 operation after activation of EMS Phase 1 operation.
ENA Down Peak	Causes the car to park at the top floor when idle.
ENA Lobby Peak	Causes the car to park at the lobby floor when idle.
ENA Up Peak	Causes the car to park at the bottom floor when idle.
Enable All CC	Bypasses car call security on all floors.
Enable All CC F	Enables all car call front buttons, bypassing car call security on all front car call buttons.
Enable All CC R	Enables all car call rear buttons, bypassing car call security on all rear car call buttons.
Enable All HC	Bypasses hall call security on all landings. When timed hall call security is enabled via the UI, activation of the Enable All HC input does not override it. This input is only effective in bypassing timed hall call security if the feature was activated through the Enable HC Timed Security input.
Enable HC Timed Security	Activation will enable the HC timed security
Enable Swing	Puts car on swing operation, removing the car from regular group calls and allowing it to take swing hall calls.
Ignore All CC Front	Ignoring of all car calls front
Indep Srv	Puts car on independent service operation.
Light Load	Analog load weigher signal indicating weight below configured threshold. Used for anti-nuisance features.
MA EMS1	Activation of EMS1 service via key switch
Marshal Mode	Puts the car on marshal mode operation.
Override Group Hall Mask	Overrides the Hall call group mask by a car specific hall mask
Parking Off	Disables parking.
Sabbath	Puts car on Sabbath operation where car will automatically move to configured floors and cycle doors, without user intervention.
Single Automation Push Button	Activation of Single Automatic Push Button (SAPB) feature
Terminal Express	Activation of terminal express mode of operation
Wander Guard	Puts the car on wander guard operation.

Table 17: Car Call (Front and Rear) Inputs

Input	Description
Buttons 1-96	Front car call buttons.
Buttons 1-96	Rear car call buttons.

Table 18: Car Call Enable (Front and Rear) Inputs

Input	Description
Keys 1-96	Input that is required to be activated whenever there is a front car call to a secured floor.
Keys 1-96	Input that is required to be activated whenever there is a rear car call to a secured floor.

Table 19: Controller Inputs

Input	Description
Auto Rescue	When active, and the car is put on battery rescue operation, car will recall to the landing requiring the least energy to reach. When inactive, car will fault until the manual rescue procedure is executed.
Battery Fault	When active, car will assert a battery fault (F656).
Battery Power	Puts the car on battery rescue operation.
Brake1 BPS	AC primary brake BPS input. Signals that the brake has fully picked. Only checked if programmed.
Brake2 BPS	AC secondary brake BPS input. Signals that the brake has fully picked. Only checked if programmed.
DSD Run Engaged	This is a redundant message from the DSD drive that it has control of the sheave and the brakes can be lifted. Only checked if programmed.
Emergency Stop	When active, it halts the car, and activates a lamp indicator "Car Stopped Lamp"
Fan And Light	When active, causes the output LIGHT FAN to also activate.
Fault	Generic fault that will stop the car with F713.
Inching Down	Moves car down when inching operation is enabled. Activated by constant pressure.
Inching Enable	Enables Inching operation, which is a special mode of operation permitting the car to move within DZ while doors are open.
Inching Safe	Safety input enables up/down movement on inching operation
Inching Up	Moves car up when inching operation is enabled. Activated by constant pressure.
Manual Pick	Indication to the controller that a manual rescue is occurring.
OOS	Puts the car in out of service operation.
Rec Trv Dir	When the car is on automatic battery rescue operation. For Magnetek drives, this indicates to the car that the easiest direction to move is down. When inactive, this indicates that the easiest direction is up.
Rec Trv On	When the car is on automatic battery rescue operation. For Magnetek drives, this indicates to the car that it has determined the easiest direction for the car to move, indicated by REC TRV DIR.
Regen Flt	When active, causes the C4 car to assert a regen fault (F254).

Table 20: Emergency Power Inputs

Input	Description
AutoSelect	After all cars have completed their recall, a preconfigured number of cars are released to go back to automatic operation. These cars are auto selected.
EP On	Car is moving from generator power back to main line power, cars should stop at their nearest reachable landings and hold doors open.
Pretransfer	Car is moving from generator Description back to main line power. Cars should stop at their nearest reachable landings and hold doors open.
Select1	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select2	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select3	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select4	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select5	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select6	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select7	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
Select8	After all cars have completed their recall, a preconfigured number of cars are released to go back in to automatic operation. These cars are manually selected via the select inputs if Auto Select is inactive.
UpToSpeed	Car is on generator power. Generator has spun up and cars can begin recalling one at a time to the lobby where they will hold doors open.

Table 21: Fire/Earthquake Inputs

Input	Description
EQ Hoistway Scan	Initiates the hoistway scan for earthquake at low speed.
Fire Recall Off	Car is being commanded to go on fire phase 1 recall via the main keyswitch. Fire Recall Rst activation takes priority of this status.
Fire Recall Rst	Car is commanded to exit Fire Phase 1 recall via the main keyswitch.
Fire2 Cncl	In car Fire Phase 2 cancel keyswitch is ON. The car will cancel its current destination and not take calls until the input is deactivated.
Fire2 Hold	In car Fire Phase 2 keyswitch is in the HOLD position.
Fire2 Off	In car Fire Phase 2 keyswitch is in the OFF position.
Fire2 On	In car Fire Phase 2 keyswitch is in the ON position.
Mashal Fire Ovl	When active, in the “Secure” position, all “Fireman’s Recall” devices for the elevator shall be deactivated.

Input	Description
Remote Fire Key	Car is being commanded to go on Fire Phase 1 recall via a remote keyswitch. Only checked when programmed.
Seismic	Seismic activity detected, puts car on Seismic Mode of operation.
Shunt Trip Intent	When active, the shunt trip recall mode of operation is activated
Smoke Alt	Alternate recall floor smoke detector indicating fire is detected.
Smoke HA	Hoistway smoke sensor indicating fire is detected.
Smoke HA 2	Secondary hoistway smoke sensor indicating fire is detected. Used for a jobsite where the group is split between two machine rooms.
Smoke Main	Main recall floor smoke detector indicating fire is detected.
Smoke MR	Machine room smoke detector indicating fire is detected.
Smoke MR 2	Secondary machine room smoke detector indicating fire is detected. Used for a jobsite where the group is split between two machine rooms.
Smoke Pit	Pit smoke sensor indicating fire is detected. Not checked if not programmed.

Table 22: Front Doors Inputs

Input	Description
BCL	Indicates that the manual hall doors for the bottom floor front opening are closed.
DCB	Door close button, requests that the front door closes.
DCL	Car door, door close limit input indicating that the front door is closed.
DOB	Door open button, requests that the front door opens.
DOL	Car door, door open limit input indicating the front door is open.
DPM	Car door position monitor input indicating front door is closed. Checked only if programmed.
Front Doors Gateswitch	Car door gateswitch contact indicating front door is closed.
Front Doors Zone	Car door door zone input indicating the front door can open.
HOLD	Door hold button, requests that the front door opens and remains open for a longer than usual dwell period.
Marshl DCB	For Marshal Mode Only DCB Front for remote console
Marshl DOB	For Marshal Mode Only DOB Front for remote console
MCL	Indicates that the manual hall doors for all the middle floors front openings are closed.
PHE	Car door photoeye input indicating that the front door light curtain is obstructed and doors are not permitted to close.
PHE ALT	Alternate photoeye input logically AND'ed with the primary photoeye. Photoeye is active if either signal is low. Used with Peelle light curtain.
Safety Edge	Indicates that the safety edge is obstructed and doors are not permitted to close. For freight doors only.
TCL	Indicates that the manual hall doors for the top floor front opening are closed.

Table 23: Inspection Inputs

Input	Description
CT DN	Moves the car down when activated with the INSP__CT_EN input also active and on car top inspection mode.
CT Enable	Enables the INSP__CT_UP and INSP__CT_DN inputs.

CT UP	Moves the car up when activated with the INSP__CT_EN input also active and on car top inspection mode.
IC DN	Moves the car down when on in car inspection mode.
IC UP	Moves the car up when on in car inspection mode.
IL Down	Moves the car down when on in car inspection mode.
IL Up	Moves the car up when on landing inspection mode.
IP Down	Moves the car down when on pit inspection mode.
IP Up	Moves the car up when on pit inspection mode.
Landing Inspection Operation	When MR SRU DIP B3 is ON and parameter Enable_Landing_Inspection (01-38) is ON, this input puts the car on Landing inspection operation.
Pit Inspection Operation	When MR SRU DIP B4 is ON and parameter Enable_Pit_Inspection (01-37) is ON, this input puts the car on Pit inspection operation.

Table 24: Rear Doors Inputs

Input	Description
BCL	Indicates that the manual hall doors for the bottom floor rear opening are closed.
DCB	Door close button, requests that the rear door closes.
DCL	Car door, door close limit input indicating that the rear door is closed.
DOB	Door open button, requests that the rear door opens.
DOL	Car door, door open limit input indicating the rear door is open.
DPM	Car door position monitor input indicating rear door is closed. Checked only if programmed.
HOLD	Door hold button, requests that the rear door opens and remains open for a longer than usual dwell period.
Marshl DCB	For Marshal Mode Only DCB Rear for remote console
Marshl DOB	For Marshal Mode Only DOB Rear for remote console
MCL	Indicates that the manual hall doors for all the middle floors rear openings are closed.
PHE	Car door photoeye input indicating that the rear door light curtain is obstructed and doors are not permitted to close.
PHE ALT	Alternate photoeye input logically AND'ed with the primary photoeye. Photoeye is active if either signal is low. Used with Peelle light curtain.
Rear Doors Door Zone	Car door door zone input indicating the rear door can open.
Rear Doors Gateswitch	Car door gateswitch contact indicating rear door is closed.
Safety Edge	Indicates that the safety edge is obstructed and doors are not permitted to close. For freight doors only.
TCL	Indicates that the manual hall doors for the top floor rear opening are closed.

Table 25: Safety Inputs

Input	Description
BYPASS LWD	Bypass LWD signals
Clear Warning Light	When active, it clears warning light
Collapsible Fully Extended	Collapsible fully extended input for CT inspection
Collapsible Fully Stowed	Collapsible fully stowed input for CT inspection
Enable Tfl2	Bypass TFL when on CT-inspection mode
Flood	Puts car on flood operation.

Flood Reset	Resets flood operation when programmed.
Full Load	Analog load weigher signal indicating the weight is above the configured threshold and the car cannot take additional passengers, car will remove itself from group (stop taking hall calls).
Glass Window Switch	Glass window switch input.
Gov Sheave Tail	Same as OOS input impact, but shows Gov Sheave Tail on screen.
Motor OVHT	N/C input signals motor overheat.
Over Load	Analog load weigher signal indicating the weight is above the configured threshold and the car cannot move. Car will remain stopped with an overload fault F246.
Phone Failure	Indicates if in car emergency phone has failed. A17-2013, 2.27.1.1.6
Phone Reset	Resets the emergency phone failure buzzer. A17-2013, 2.27.1.1.6
Tfl2	Top Final Limit 2 input
TLoss Reset	Alternate method of resetting a latched traction loss fault via moveable input.

5 Types of Outputs

The tables below define the types of outputs by category.

Table 26: Auto Operation Outputs

Output	Description
Accelerating	Activates when the car is in the acceleration stage of its run.
Active Shooter	Output activated whenever the "Active shooter" mode input is on.
Arrival DN 1	Discrete arrival lantern output, set 1. See 08-197 and 01-175.
Arrival DN 2	Discrete arrival lantern output, set 2. See 08-198 and 01-176.
Arrival DN 3	Discrete arrival lantern output, set 1. See 08-199 and 01-177.
Arrival DN 4	Discrete arrival lantern output, set 2. See 08-200 and 01-178.
Arrival DN 5	Discrete arrival lantern output, set 2. See 08-201 and 01-179.
Arrival UP 1	Discrete arrival lantern output, set 1. See 08-197 and 01-175.
Arrival UP 2	Discrete arrival lantern output, set 2. See 08-198 and 01-176.
Arrival UP 3	Discrete arrival lantern output, set 1. See 08-199 and 01-177.
Arrival UP 4	Discrete arrival lantern output, set 2. See 08-200 and 01-178.
Arrival UP 5	Discrete arrival lantern output, set 2. See 08-201 and 01-179.
At Landing Lamp	Output indicates car is at landing and idle in automatic normal mode.
Auto Mode Generic Output	Output indicated the mode of operation index saved in 08-0016.
Buzzer	Triggers an audible in car buzzer when the car is overloaded, on fire, nudging, on EMS Phase 1, or when on Attendant and there is a demand.
Car To Lobby	This output activates if the car has finished its recall triggered by the car to lobby input.
CC Acknowledge	Activates when a car call is placed. This is used in Canada for blind people.
Chime	Activates when the car is in an automatic mode of operation and the passing chime disable Output is inactive. The chime is triggered for 500ms every time the car's PI changes.
Decelerating	Activates when the car is in the deceleration stage of its run.
Distress Buzzer	At a central control console, a distress and light buzzer will be provided for each elevator and an acknowledge button common to all elevators. Pressing the distress alarm button, triggering the emergency stop switch,

Output	Description
	if a dispatched car remains at a landing for >30 seconds, or if the electrical safety circuit is open will turn on the distress light, and pulse the distress buzzer. The Distress light will remain lit until the acknowledge button is pressed.
Distress Lamp	At a central control console, a distress and light buzzer will be provided for each elevator and an acknowledge button common to all elevators. Pressing the distress alarm button, triggering the emergency stop switch, if a dispatched car remains at a landing for >30 seconds, or if the electrical safety circuit is open will turn on the distress light, and pulse the distress buzzer. The Distress light will remain lit until the acknowledge button is pressed.
Group Redundancy	Switches power to a redundant set of Riser boards.
In Service	Activates if hall calls are not disabled and the car is not faulted.
In Use	Activates when the car is not in normal operation, is in motion, or has its doors open.
Lamp At Recall	Activates when the car has completed EMS, Fire, or emergency power recall.
Lamp Attd Above	Activates when the car is in attendant operation and there is a hall call at a floor above.
Lamp Attd Below	Activates when the car is in attendant operation and there is a hall call at a floor below.
Lamp EMS	Activates when the car is in EMS Phase 1 or Phase 2.
Lamp Indp Srv	Activates when the car is in independent service operation.
Lamp Parking	Triggers when the car is in normal operation and is parked.
Lamp Sabbath	Activates when the car is in Sabbath operation.
Near Capacity Lamp	Output activated when full load input is activated
Overloaded	Activates when the car is in an automatic mode of operation and the load weigher has flagged an overloaded state.
Travel Dn	Triggers when the car is moving down.
Travel Up	Triggers when the car is moving up.
VIP Mode	This output is activated when car is on VIP mode of operation

Table 27: Car Call (Front and Rear) Outputs

Output	Description
Lamp 1-96	Front car call lamps.
Lamp 1-96	Rear car call lamps.

Table 28: Controller Outputs

Output	Description
Auto Rescue	Lamp output when auto rescue is active.
Battery Pwr	Output signaling car is on battery power.
BPS Status	Activates when the primary brake pick switch signals the brake is open. Used for TKE UBS DD project.
BPS2 Status	Activates when the secondary brake pick switch signals the brake is open. Used for TKE UBS DD project.
Brake1 Pick	AC primary brake pick output.
Brake2 Pick	AC secondary brake pick output.

Car Stopped Lamp	Output indicates that Emergency Stop switch was activated.
CEDES Fan	CEDES Maintenance Fan output. Blows air at Cedes tape when in motion to clear accumulated dust.
Drive HW Enable	Triggers prerun energizing of the DSD DC drive.
Fault Lamp	Output indicates when the car is in a faulted state.
Hoistway Lamp	Output indicates car in hoistway/access/inspection mode or fire phase 2 mode.
Light Fan	Turns on car light and fan hardware.
MR Fan	Fan output that will remain active for an adjustable period of time after each run.
Rec Trv Enable	Enables recommended travel direction of Magnetek drives.
Regen Enable	Activates the regen.
Regen Reset	Triggers a reset of an active regen fault.
Safety Rescue	Triggers manual rescue in event of power loss.

Table 29: Emergency Power Outputs

Output	Description
Lamp On EP	Car is on emergency power operation.
Select 1	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 2	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 3	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 4	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 5	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 6	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 7	Car is on emergency power operation and is recalling or has been released back into automatic operation.
Select 8	Car is on emergency power operation and is recalling or has been released back into automatic operation.

Table 30: Fire/Earthquake Outputs

Output	Description
EQ Slow Lamp	Activates when the car is in EQ Hoistway Scan operation.
Fire I Active	Used by Peelle door operator. Active if Fire Phase 1 is active and recall has not completed.
Fire I Hold	Activates when the car has arrived at the fire recall floor and is on Fire Phase 1.
Fire II Active	Used by Peelle door operator. Active if Fire Phase 2 is active.
Fire II Hold	Used by Peelle door operator. Active if on Fire Phase 2 hold operation.
Fire Shunt	Activates when the car is on fire service and has completed its recall.
Lamp EQ	Turns on when the car is on seismic or counterweight derail modes of operation.

Lamp Fire	Activates when the car is in fire service operation. Depending on the configuration, it will either flash every 500 ms or stay ON the whole time.
Lamp Fire Lobby	Activates when the car is in fire service operation. Depending on the configuration it will either flash every 500 ms or stay ON the whole time.
Lamp Seismic Status	Activates when the car is on Seismic.

Table 31: Front Doors Outputs

Output	Description
Arrival Down	Arrival down turns on when the car arrives at a floor then opens its doors and intends to continue moving down.
Arrival Up	Arrival up turns on when the car arrives at a floor then opens its doors and intends to continue moving up.
CAM	Retiring CAM. For swing hall doors and some freight doors, this output controls the hall locks. This output turns on when the car is in motion.
DC	Door close.
DCL	Door closed limit status. This output turns ON when the door closed limit switch signals the door is closed.
DCM	Used by Peelle door operator. Triggers door operator fast open/close where landing and car door movement will occur simultaneously.
DCP	Door close protection.
DO	Door open.
DOL	Door open limit status. This output turns ON when the door open limit switch signals the door is open.
Gate Release	Gate release.
Hold Lamp	Door hold.
NDG	Door nudge. After a specified timeout, if the door has not closed, the doors will move to a nudging state where the PHE is ignored and the nudging output will turn on.
Restrictor	Door restrictor.
Safety Edge	Safety edge broken status. This output turns ON when the safety edge or photoeye is broken.
Test	Used by Peelle light curtain to test for photoeye failure prior to each close attempt.
Warning Buzzer	Used by Peelle door operator. Activates 5 seconds before starting door close and remains on until doors fully closed.

Table 32: Inspection Output

Output	Description
Lamp Insp	Signals when the car is on inspection.

Table 33: Rear Doors Outputs

Output	Description
Arrival Down	Arrival down turns on when the car arrives at a floor then opens its doors and intends to continue moving down.
Arrival Up	Arrival up turns on when the car arrives at a floor then opens its doors and intends to continue moving up.

CAM	Retiring CAM. For swing hall doors and some freight doors, this output controls the hall locks. This output turns on when the car is in motion.
DC	Door close.
DCL	Door closed limit status. This output turns ON when the door closed limit switch signals the door is closed.
DCM	Used by Peelle door operator. Triggers door operator fast open/close where landing and car door movement will occur simultaneously.
DCP	Door close protection.
DO	Door open.
DOL	Door open limit status. This output turns ON when the door open limit switch signals the door is open.
Gate Release	Gate release.
Hold Lamp	Door hold.
NDG	Door nudge. After a specified timeout, if the door has not closed, the doors will move to a nudging state where the PHE is ignored and the nudging output will turn on.
Restrictor	Door restrictor.
Safety Edge	Safety edge broken status. This output turns ON when the safety edge or photoeye is broken.
Test	Used by Peelle light curtain to test for photoeye failure prior to each close attempt.
Warning Buzzer	Used by Peelle door operator. Activates 5 seconds before starting door close and remains on until doors fully closed.

Table 34: Safety Outputs

Output	Description
Lamp Flood	Car's flood sensor has detected a flood.
Phone Fail Lamp	Lamp indicating emergency phone has failed. A17-2013, 2.27.1.1.6
Phone Fail Buzzer	Buzzer indicating emergency phone has failed. A17-2013, 2.27.1.1.6
Ebrake Status	Output that reflects Ebrake status output
Warning Light	Output activated when an unauthorized car call is detected

6 Invert Inputs

After assigning an input type, the system may need to monitor the input state as either active or inactive. Invert Inputs allows changing how the system interprets the assigned input logic level.

Follow the steps below to change the state of an input:

1. Navigate to **Main Menu | Setup | Setup I/O | Invert Inputs**.
2. From the **Select Board** menu, scroll and select the board containing the input to be inverted.
3. In the **Invert Inputs** menu, scroll and select the assigned input.
4. Set the state to **Active (On)** or **Inactive (Off)**.
5. Scroll right and press **Save**.

7 Invert Outputs

Invert Outputs functions similarly to Invert Inputs, but for output signals. After assigning an output type, the system may require inversion of the logic level to match system requirements.

Follow the steps below to change the state of an output:

1. Navigate to **Main Menu | Setup | Setup I/O | Invert Outputs**.

2. From the **Select Board** menu, scroll and select the board containing the input to be inverted.

3. In the **Invert Inputs** menu, scroll and select the assigned input.

4. Set the state to **Active (On)** or **Inactive (Off)**.

5. Scroll right and press **Save**.

CONTROLLER HARDWARE

1 Controller Hardware Overview

The C4 controller consists of the following boards:

- MR board - SR3032
- Smartrise Universal (SRU) board - SR3030
- I/O board (Riser board) - SR 3031
- 24 Input board – SR3041
- Hall board - SR1060
- Serial Brake board - SR3038

2 MR Board (SR3032)

The MR Board serves as the main interface within the controller. It features two sets of DIP switch banks:

- **Bank A** (upper bank)
- **Bank B** (lower bank)

Each DIP switch is configured to enable a specific functionality. The table below outlines the functions and descriptions of the switches in Bank A.

Table 35: MR Board SR3032 Bank A DIP Switch Setting Configuration

DIP Switch	Functionality	Description
DIP 1	CPU Stop Switch	Halts parameters updates and used to reset some latched faults.
DIP 2	N/A	N/A
DIP 3	Capture Car/Disable Doors	Takes the car out of the group and completes all Car Calls before going into captured mode.
DIP 4	Enable GUI Edit (v1.02.54 and above)	Allows to Edit the parameters from GUI (including the restore param process).
DIP 5	Learn Mode	Activates Learn Mode on the controller to learn the hoistway.
DIP 6	Enable Tune	Sends message to the drive to begin the tune process. Used after setting the drive-in motor tune or encoder learn.
DIP 7	Pop-up Blocker	Disables the fault pop-up messages. Faults can still be viewed in the active and logged faults.
DIP 8	Bootloader Flag	Sets all boards in software download mode to update the firmware

The table below outlines the functions and descriptions of the switches in Bank B.

Table 36: MR Board SR3032 Bank B DIP Switch Setting Configuration

DIP Switch	Functionality	Description
DIP 1	Invert NTS Output	When set to ON, NTS output is Active Low.
DIP 2	Rear Doors	Must be set if rear doors are present.
DIP 3	Enable Landing Insp	Must be set if Landing Inspection operation is used.
DIP 4	Enable Pit Insp	Must be set if Pit Inspection operation is used.
DIP 5	Sync Params	Writes parameters from cartop to machine room. This switch is used when replacing the MR board.
DIP 6	Bypass Fire Srv (w/ 01-0131)	Setting this along with parameter 01-0131 to ON bypasses fire service.

DIP 7	Preflight Check	It ensures the safety and proper functioning of the elevator. It involves checking mechanical, electrical, and safety components.
DIP 8	Unintended Movement Acceptance Test	Used during the unintended movement acceptance test.

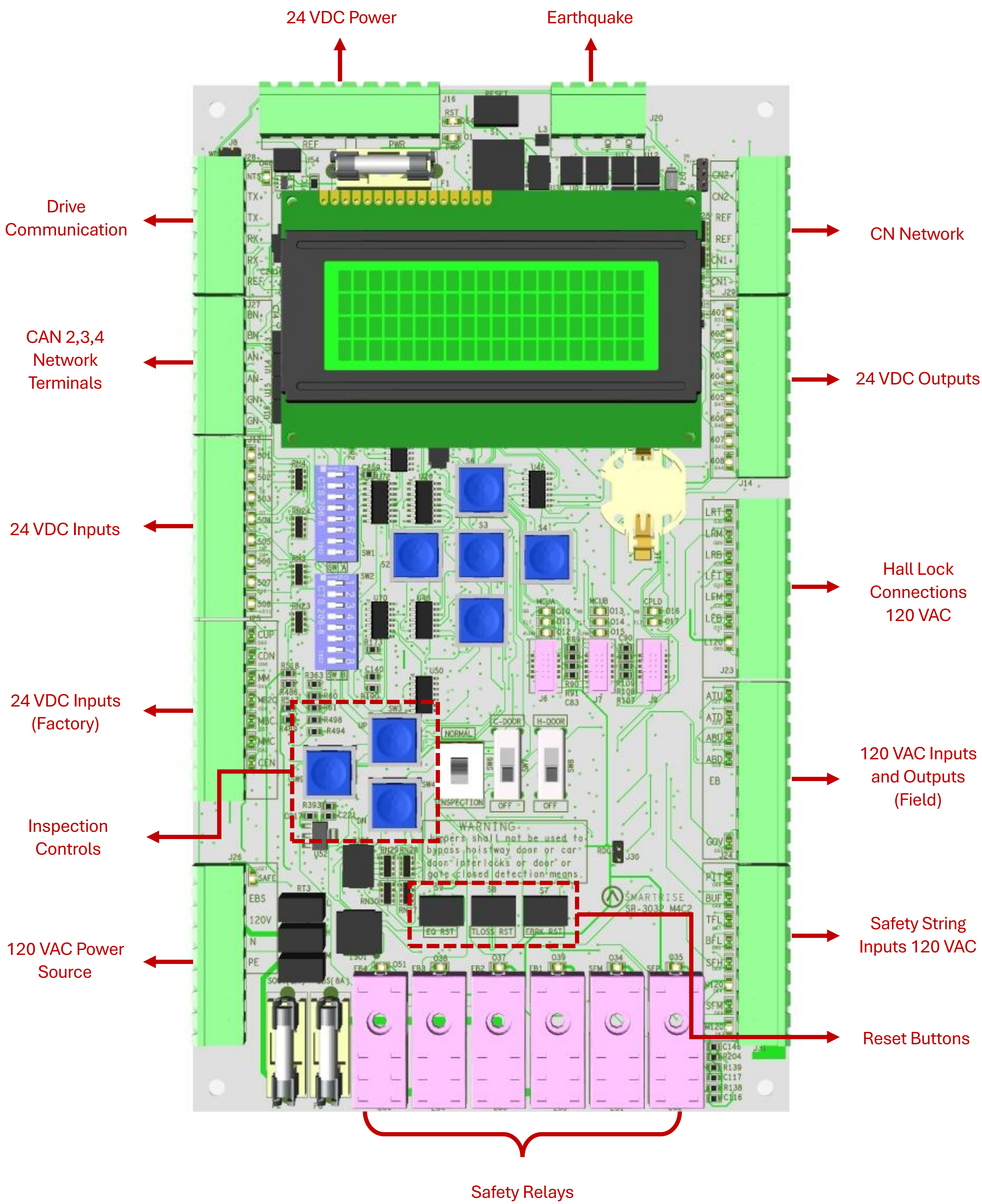


Figure 65: MR Board - SR3032

2.1 Navigation Buttons

The navigation buttons are the same on every SRU board.

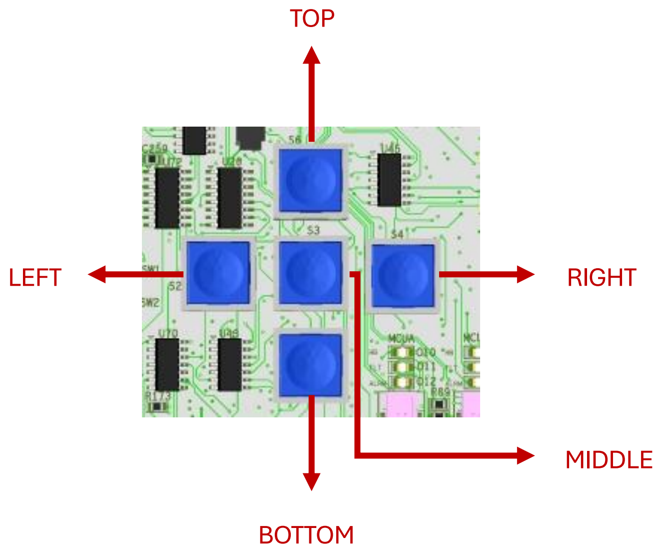


Figure 66: Navigation Buttons

Descriptions of the navigation buttons are provided in the table below.

Table 37: Navigation Buttons' Description

Button	Description
Top	Scrolls up through selected menu
Bottom	Scrolls down through selected menu
Left	Navigates back to Main Menu
Right	Navigates right through series of menus/submenus
Middle	Selects menu

A selected menu within a menu list is indicated with an asterisk (*) as shown in the figure below.

Figure 67: Example of Selected Menu

2.2 24 VDC Power Source

A single terminal is sufficient to connect the 24 VDC Power and Reference to the MR board. Additional terminals may be used for auxiliary connections as necessary.

2.3 EBRK Reset Button

There are three reset buttons.

When performing a reset, press and immediately release the button. The fault will clear after approximately 5–6 seconds.

- **EQ RST:** Resets a seismic fault due to an earthquake.
- **TLOSS RST:** Resets traction loss fault.
- **EBRK RST:** Clears latched faults.

2.4 Drive Communication

The Drive Communication connector transmits and receives signals to and from the drive (the type of drive is dependent on the application) as well as triggers the Normal Terminal Stop (NTS) operation.

- **RX And TX Terminals:** Communication line to and from the drive. When the 046 LED is lit, the NTS signal is active.
- **REF Terminal:** A shield connection to connect to the drive, as applicable.

2.5 Network

The network enables board-to-board communication between the Machine Room, Car Top, Car Operating Panel, and Expansion Boards.

- **CN Network Terminals:** Use both CN1 and CN2 for communication.
- **REF Terminal:** Provides a ground reference to reduce noise on the CN1 and CN2 signals.

These connections must be established before switching to Inspection or Normal operation.

- **Brake Network (BN) Terminals:** Facilitate communication between the Machine Room and the Brake Board.
- **Auxiliary Network (AN) Terminals:** Enable auxiliary communication between the Machine Room and compatible third-party devices (e.g., IE CE Drive Board).
- **Group Network (GN) Terminals:** Provide group communication by linking all cars together in a group configuration

2.6 120 VAC Inputs and Outputs (Factory)

WARNING

ALL CONNECTIONS ON THIS TERMINAL BLOCK ARE HIGH VOLTAGE. DISCONNECT POWER TO THE CONTROLLER BEFORE WIRING THESE TERMINALS.

- **SAFE Terminal:** Provides the SAFE output from the MR Board to the motor contactor. The SAFE terminal will not output voltage to the motor contactor coil until all safety checks have been completed. Wwhen the SAFE LED is lit, there is an active signal to the motor contactor.
- **EBS Terminal:** Connects the supply voltage for the emergency brake. Depending on the rope brake or disc ratings, the voltage will either be 120 VAC or 240 VAC..

2.7 24 VDC Inputs and Outputs

The 24 VDC inputs are labelled 501-508. Each input is activated by applying 24 VDC to the corresponding terminal. LEDs 501–508 will illuminate when their respective inputs are active.

The 24 VDC outputs are labeled 601–608. Each output sinks to REF when activated. LEDs 601–608 will illuminate when their respective outputs are active.

2.8 24 VDC Monitoring System

The monitoring connector is used to monitor the system. Each terminal has a corresponding LED that lights when active.

- **CUP and CDN Inputs:** Control the car's movement UP or DOWN using an external run box.
- **MM Terminal:** Switches the controller between Construction Mode (when the INSPECTION switch is ON) and Test Mode (when the INSPECTION switch is OFF). To activate this input, a jumper must be installed from 24 VDC to the terminal.
- **MB2C Terminal:** Monitors the status of the B2 contactor (if used).
- **MBC Terminal:** Monitors the status of the B contactor.
- **MMC Terminal:** Monitors the status of the M contactor.
- **CEN Terminal:** Monitors the enable contact status on the external run box during Construction Mode. This input must be enabled before the CUP and CDN inputs.

2.9 Safety String Inputs 120 VAC

⚠ WARNING

ALL CONNECTIONS ON THIS TERMINAL BLOCK ARE HIGH VOLTAGE. DISCONNECT POWER TO THE CONTROLLER BEFORE WIRING THESE TERMINALS.

This terminal block contains connections for the controller safety string. Each input is continuously monitored. The source and termination points for all Machine Room and Hoistway safety devices are located on this block. Each terminal has a corresponding LED that lights when active.

- **PIT Terminal**: Termination point for the Pit switch. The primary side of the switch connects to H120, and the secondary side is wired back to the PIT terminal.
- **BUF Terminal:** Termination point for the Buffer switch. The primary side connects to H120, with the secondary side wired back to the BUF terminal.
- **TFL Terminal:** Termination point for the Top Final Limit switch. The primary side connects to H120, with the secondary side wired back to the TFL terminal.
- **BFL Terminal:** Termination point for the Bottom Final Limit switch. The primary side connects to H120, with the secondary side wired back to the BFL terminal.
- **H120 Terminal:** Internal fused power source for all hoistway safety devices. This terminal powers the PIT, BUF, BFL, TFL, and any additional hoistway safety devices.
- **SFM Terminal:** Termination point for all Machine Room safety devices without dedicated inputs, such as the Run/Stop switch, Roper Gripper contacts, and EBrake. Additional devices are wired in series and terminated here.
- **SFH Terminal:** Termination point for all hoistway safety devices without dedicated inputs. Additional devices are wired in series and terminated here.
- **M120 Terminal:** Internal fused power source for all Machine Room safety devices.

2.10 120 VAC Inputs and Outputs (Field)

⚠ **WARNING**

ALL CONNECTIONS ON THIS TERMINAL BLOCK ARE HIGH VOLTAGE. DISCONNECT POWER TO THE CONTROLLER BEFORE WIRING THESE TERMINALS.

The following are input terminals:

- **ATU Terminal:** Access Top Up controller termination.
- **ATD Terminal:** Access Top Down controller termination.
- **ABU Terminal:** Access Bottom Up controller termination.
- **ABD Terminal:** Access Bottom Down controller termination.
- **GOV Input:** Termination of the Governor switch. The primary side of the governor electrical switch is connected to M120 and the secondary side is wired back to this terminal.

The following is an output terminal:

- **EB Terminal:** Voltage output to either the rope gripper or the secondary brake contactor. In case of the rope gripper, this terminal is connected to the primary or hot side of the rope gripper. If a secondary sheave brake is being used, this is factory wired to the B2 contactor.

2.11 Hall Lock Connections

⚠ **WARNING**

ALL CONNECTIONS ON THIS TERMINAL BLOCK ARE HIGH VOLTAGE. DISCONNECT POWER TO THE CONTROLLER BEFORE WIRING THESE TERMINALS.

- **LRT Terminal:** Terminates the rear top lock. The primary side of the lock connects to L120, and the secondary side is wired back to this terminal.
- **LRM Terminal:** Terminates the rear middle locks. The primary side connects to L120, with the secondary side wired back to this terminal.
- **LRB Terminal:** Terminates the rear bottom lock. The primary side connects to L120, with the secondary side wired back to this terminal.
- **LFT Terminal:** Terminates the front top lock. The primary side connects to L120, with the secondary side wired back to this terminal.
- **LFM Terminal:** Terminates the front middle locks. The primary side connects to L120, with the secondary side wired back to this terminal.
- **LFB Terminal:** Terminates the front bottom lock. The primary side connects to L120, with the secondary side wired back to this terminal.
- **L120 Terminal:** Internally fused source supplying all lock voltages.

2.12 Inspection Controls

- **Enable Button:** Enables power to the direction commands during Inspection operation. This button must be pressed before issuing any movement commands in Inspection mode.
- **Inspection Switch:** Toggles between Inspection and Normal operation. When the MM input signal is high and the switch is set to INSPECTION, the system enters Construction Mode. When set to NORMAL, the system operates in Test Mode.
- **Up and Down Buttons:** Move the car up or down during Inspection.

- **Car and Hall Door Bypass Switches:** Bypass the Hall Locks and Gate Switch only during CT and IC Inspection. These switches replace jumpers to minimize the risk of accidentally leaving a jumper connected. They must not be used during Construction Mode; using them outside of CT or IC inspection causes the controller to fault.

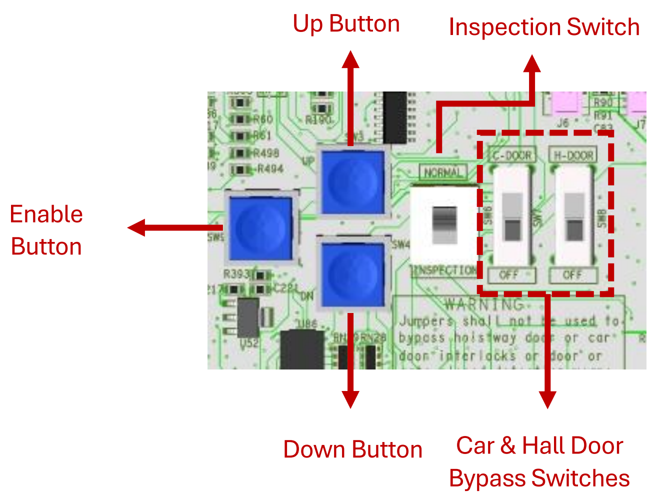


Figure 68: MR Board SR3032 Inspection Control

2.13 Safety Relays

- **SFM:** Force-guided relay controlled by the main processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **SFP** output voltage to the **SAFE** terminal to control the motor contactor.
- **SFP:** Force-guided relay controlled by the safety processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **SFM** output voltage to the **SAFE** terminal to control the motor contactor.
- **EB1:** Force-guided relay controlled by the safety processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **EB2** pass voltage from the **EBS** terminal to the **EB** terminal.
- **EB2:** Force-guided relay controlled by the main processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **EB1** pass voltage from the **EBS** terminal to the **EB** terminal.
- **EB3:** Force-guided relay controlled by the safety processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **EB3** pass voltage from the **EBS** terminal to the **EB** terminal.
- **EB4:** Force-guided relay controlled by the main processor. Its status is monitored by both the main and safety processors. When active, the relay's contacts in series with **EB1** pass voltage from the **EBS** terminal to the **EB** terminal.

NOTE: EB3 and EB4 are used only during preflight operation to bypass EB1 and EB2, allowing EB1 and EB2 to toggle without dropping the emergency brake.

3 CT/COP Board SR3030

The LEDs on the SRU board indicate the status of each terminal and processor through three colors:

- **Red**: A fault has been detected, or the board is in the process of resetting.
- **Yellow**: Indicates an active output terminal or an alarm condition on the processors.
- **Green**: Indicates power on an input terminal, power to the board, and a "heartbeat" signal showing the processor software is running.

Each LED on the CT/COP board has a reference designator.

Input terminals are labeled **501 through 5XX** (up to 508 on the MR board).

24 VDC must be connected to input terminals to power the logic circuitry.

WARNING
DO NOT APPLY AC CURRENT TO THE INPUT TERMINALS. APPLYING AC CURRENT WILL DAMAGE THE BOARD.

The output terminal connects to the **negative** side of the load and provides a **reference (REF)** signal. The **positive** side of the load must be connected to a **24 VDC power source**.

If the yellow LED is **not** illuminated, the output transistors are inactive and the load is not energized.

WARNING
DO NOT APPLY 24 VDC DIRECTLY TO THE OUTPUT TERMINAL WITHOUT A CURRENT-LIMITING DEVICE. THIS WILL DAMAGE THE OUTPUT TRANSISTORS.

The Serial Communication ports are as follows:

- **1* (CN2+ CN2−):** Serial communication from the CT to the MR board (Safety Network)
- **2* (CN1+ CN1−):** Serial communication for devices on the car network
- **3* (C3H and C3L):** Serial communication to third-party devices (e.g., Fixture Driver board)

CAT5*: Supplies power and two serial communication channels.

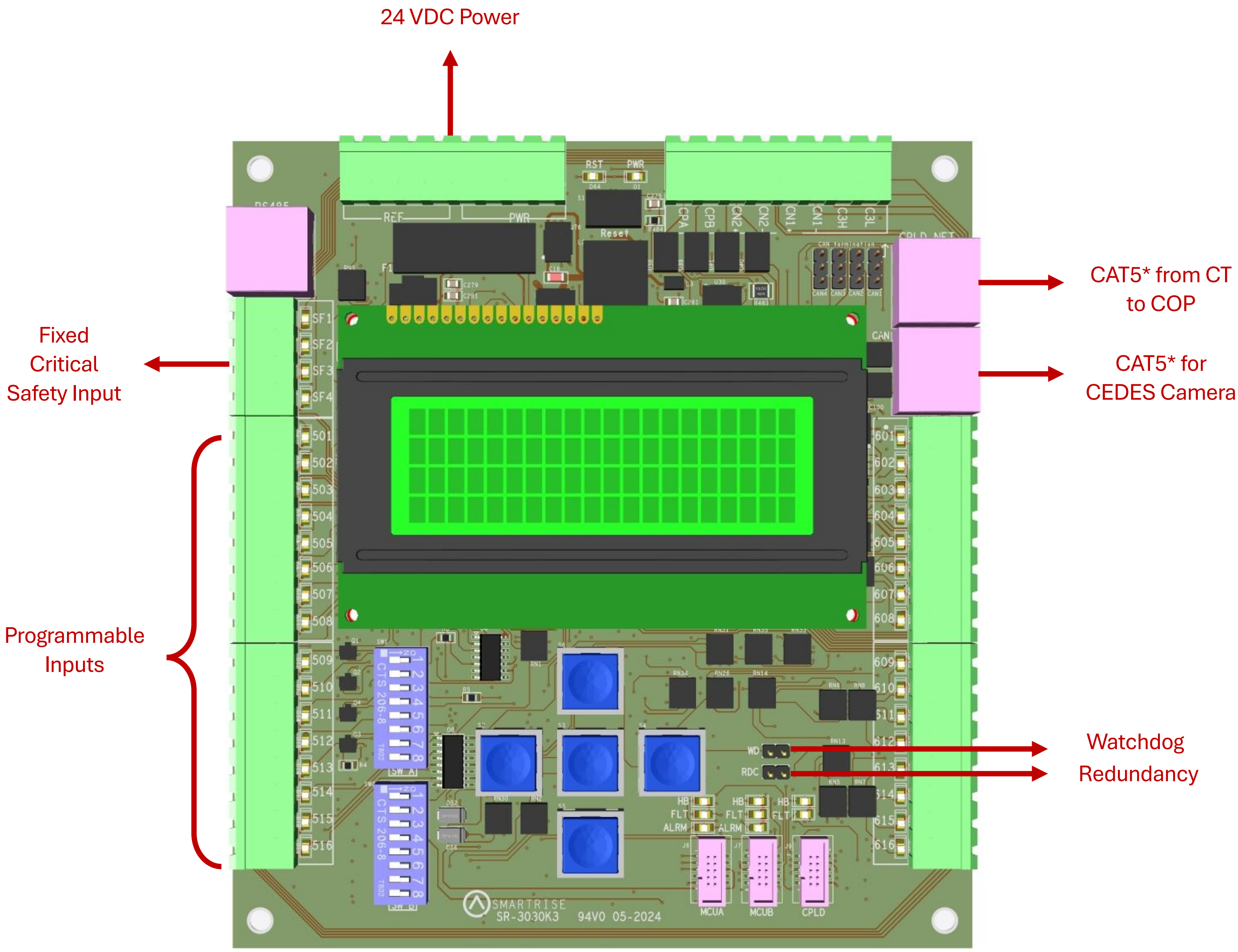


Figure 69: SRU Board SR3030

There are two DIP switch banks on the SR3030 board:

- **Bank A (upper)**
- **Bank B (lower)**

Each bank is configured for specific functionalities. The table below outlines the DIP switch settings for Bank A on the SR3030 CT/COP board.

Table 38: CT/COP Board SR3030 Bank A DIP Switch Setting Configuration

DIP Switch	Functionality	Description
DIP 1	CPU Stop Switch	Halts parameters updates and used to reset some latched faults.
DIP 2	N/A	N/A
DIP 3	N/A	N/A
DIP 4	N/A	N/A
DIP 5	N/A	N/A
DIP 6	N/A	N/A
DIP 7	Pop-up Blocker	Disables the fault pop-up messages.

		Faults can still be viewed in the active and logged faults.
DIP 8	N/A	N/A

The table below outlines the DIP switch settings for Bank B on the SR3030 CT/COP board.

Table 39: CT/COP Board SR3030 Bank B DIP Switch Setting Configuration

DIP Switch	Functionality	Description
DIP 1	COP (not CT)	Must be turned on for COP operation and off for CT operation.
DIP 2	Enable Rear Doors	Must be set if rear doors are present.
DIP 3	N/A	N/A
DIP 4	N/A	N/A
DIP 5	N/A	N/A
DIP 6	N/A	N/A
DIP 7	N/A	N/A
DIP 8	N/A	N/A

4 I/O Board/Riser Board SR3031

The SR3031 board can operate in two configurations:

1. **Riser Board Mode (DIP switch 8 = ON)**

   Used for Fire Service, Emergency Power connections, and Hall Network integration.

   Additional riser boards are added by incrementing the DIP switch address. For example:

   - Riser Board 1 → DIP 8 ON
   - Riser Board 2 → DIP 8 and DIP 1 ON

   A maximum of four Riser boards can be used per system.

2. **Expansion Board Mode (DIP switch 8 = OFF)**

   Used to provide **programmable 24 VDC inputs and outputs**.

   Expansion boards are grouped in sets of eight.

   Up to 40 Expansion boards are supported in the system.

Master/Slave Switch configures the **secondary CAN network** on SR3031:

- **Slave Position**: CAN1 and CAN2 terminals are **mirrored** (connected to the same network).
- **Master Position**: CAN1 and CAN2 terminals are **independent** (connected to separate networks).

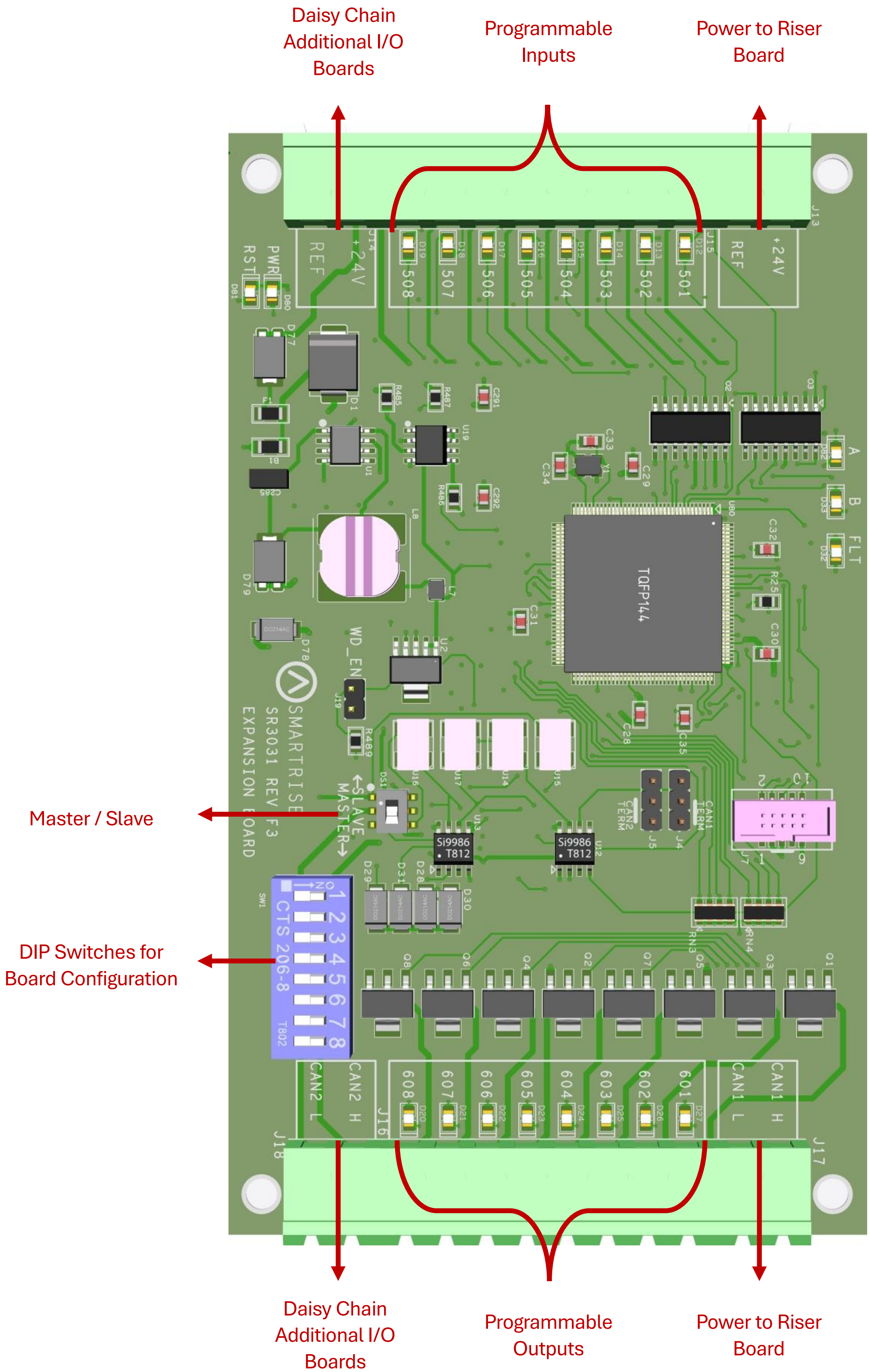


Figure 70: I/O Board/Riser Board SR3031

The table below lists the I/O Board SR3031 DIP switch settings.

Table 40: I/O Board SR3031 DIP Switch Settings

DIP Switch	Functionality
DIP 1	Slave ID 1
DIP 2	Slave ID 2
DIP 3	Slave ID 3
DIP 4	I/O Master ID 1
DIP 5	I/O Master ID 2
DIP 6	I/O Master ID 3
DIP 7	I/O Master ID 4
DIP 8	Riser Board

4.1 Group Redundancy

The Group Redundancy feature monitors communication with pre-connected Riser boards and responds to communication loss by switching to a redundant set of boards.

Monitoring behavior depends on the number of Riser boards connected:

- If only one Riser board is connected, only that board is monitored.
- If four Riser boards are connected, all four are monitored for communication loss.

If any connected Riser board loses communication for more than 10 seconds, the system sends a signal to activate a relay group. This shuts down the primary Riser board set and activates the redundant set.

If no Riser boards are connected at power-up, Group Redundancy will be disabled, and no boards will be monitored.

To enable proper functionality, the following wiring is required:

- All I/Os between the primary and redundant Riser 1 boards must be wired in parallel.
- Hall board communication lines between the primary and redundant Riser 1 boards must also be wired in parallel.
- Control relays must be installed to manage power delivery to both the primary and redundant Riser 1 boards.

5 24 Input Board SR3041

The SR3041 board functions similarly to the SR3031 I/O Expansion board, but with one key difference – It has no output terminals, it is strictly for inputs.

The SR3041 provides three sets of eight assigned inputs, allowing it to replace three SR3031 boards. Like the SR3031, the SR3041 can be daisy-chained to either additional SR3041 or SR3031 boards.

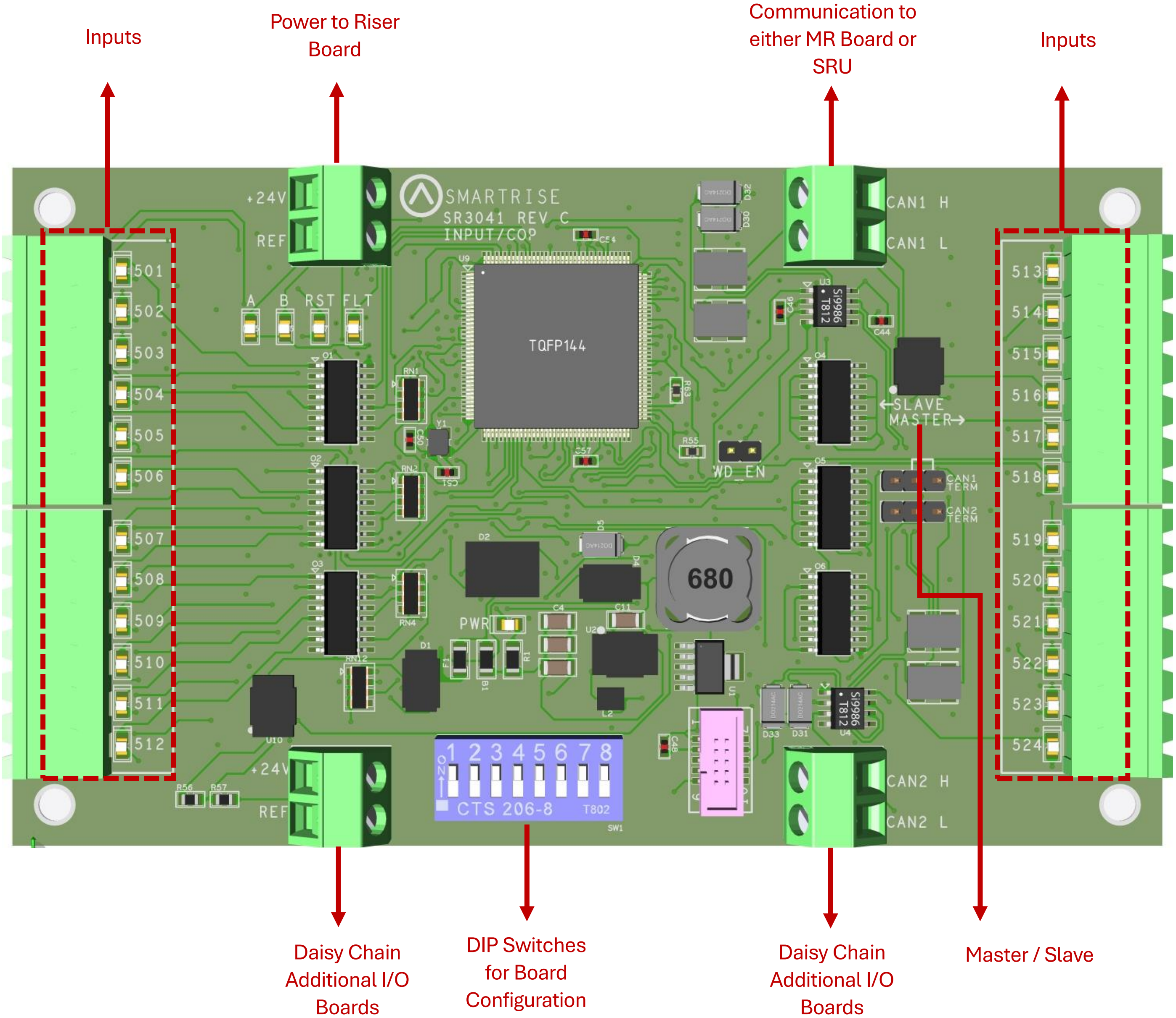


Figure 71: 24 Input Board SR3041

The serial communication is as follows:

- **CAN1:** The Master board connects to the COP board's AUX Net.
- **CAN2:** The Master board connects to CAN1 of the Slave board.

NOTE: CAN2 of each Slave board will be connected to CAN1 to the following Slave board.

The assigned input for wiring is as follows:

- **501–508** → First Address
- **509–516** → Second Address
- **517–524** → Third Address

The table below outlines the DIP switch settings for the 24 Input SR3041 board.

Table 41: 24 Input Board SR3041 DIP Switch Settings

DIP Switch	Functionality
DIP 1	Slave ID 1
DIP 2	Slave ID 2
DIP 3	Slave ID 3
DIP 4	I/O Master ID 1
DIP 5	I/O Master ID 2
DIP 6	I/O Master ID 3
DIP 7	I/O Master ID 4
DIP 8	Unused

NOTE: This board will occupy the expansion board address shown on its DIPs, as well as the next two slave addresses.

Depending on the location of the 24 Input board on the controller, the DIP switches have to be set to certain positions. The address of the board depends on the type of board previously used. If the previous board is a SR3041, the address is the previous board's address +3. If the previous board is a SR3031, the address is the previous board's address +1. If this Input board is the first board within the chain, turn OFF all DIP switches. The 24 Input board will mimic SR3031 Expansion boards (1-3).

If this Input board follows directly after the first 24 Input board in the chain, turn ON DIP switches 1 and 2 only. The 24 Input board will mimic SR3031 Expansion boards (4-6).

If another 24 Input board follows directly after the first two 24 Input boards within the chain, turn ON DIP switches 2 and 3 only. The 24 Input board will mimic SR3031 Expansion boards (7-9).

The DIP switch configuration table for the SR3041 when acting as master is provided below.

Table 42: 24 Input Board SR3041 DIP Switch Settings When SR3041 is Master

Board Type	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6	DIP 7	DIP 8
SR30041 (Master)								
SR3041 (Slave)	X	X						
SR3041 (Slave)		X	X					

X = Turn DIP switch ON

The DIP switch configuration table for the SR3031 when acting as master is provided below.

Table 43: 24 Input Board SR3041 DIP Switch Settings When SR3031 is Master

Board Type	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6	DIP 7	DIP 8
SR3031 (Master)								
SR3041 (Slave)	X							
SR3041 (Slave)			X					

X = Turn DIP switch ON

6 Brake Board SR3038

The Brake Board version depends on the current used in the system.

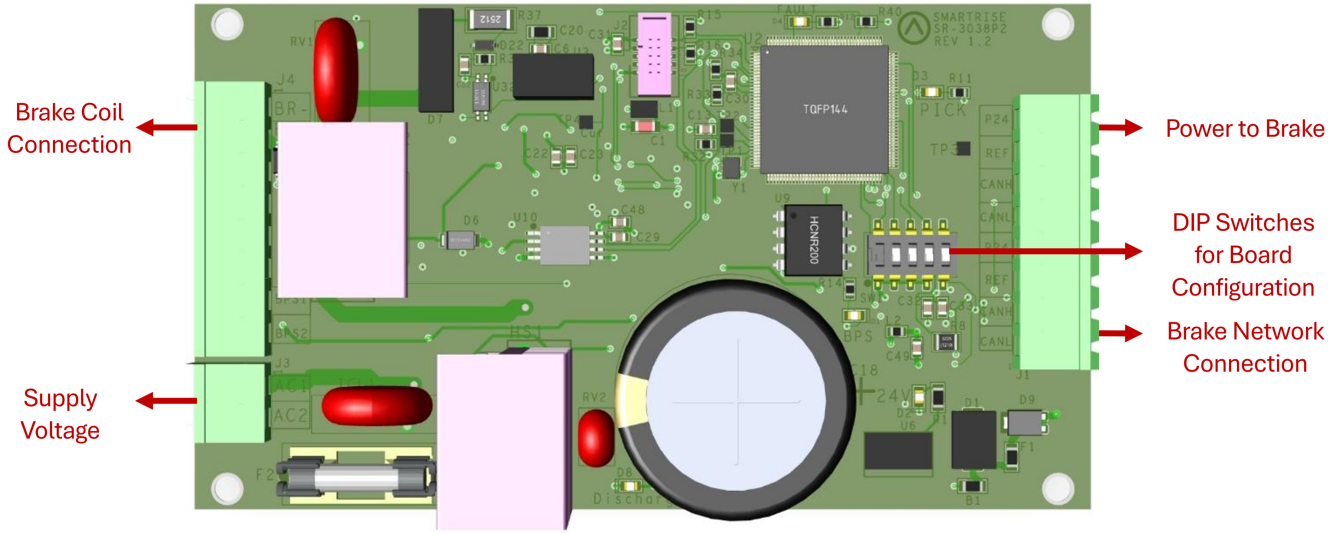


Figure 72: Brake Board Example – SR3038

The table below lists the DIP switch settings for the SR3038 Brake Board.

Table 44: Brake Board SR3038 DIP Switch Settings

DIP Switch	Functionality
DIP 1	Secondary or Emergency
DIP 2	ID1 (Disable MOSFET Fault) **
DIP 3	ON = 120VAC/OFF = 240VAC
DIP 4	WDT Off *
DIP 5	CAN Bus Termination

*When DIP 4 is set (WDT disabled), the Fault LED will toggle once per second.

**If DIP 2 is set at startup, the brake board will not operate.

The table below provides troubleshooting information.

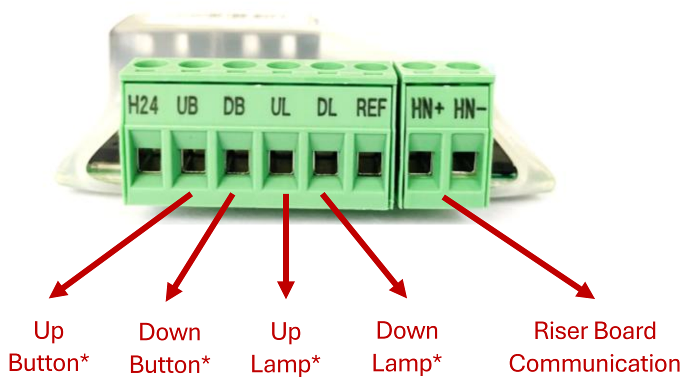
Table 45: Troubleshooting Tips

Error Number	Trigger	FLT LED	Solution
Unknown (0)	Undefined fault	Toggle 250 ms	Replace Brake board
Power On/Reset (2)	Board reset	Solid	
Watchdog Reset (3)	CAN bus error or processor stalled/Dip4 on	Solid	Check CAN bus connections for miswiring/ switch off Dip4
Communication (4)	No communication for 2 seconds	Toggle 500 ms	Check CAN bus connection for miswiring. Check bus termination.

MOSFET Failure (6)	MOSFET output feedback signal deviates from input signal by > 20% for greater than 2 seconds	Toggle 250 ms	Check wiring for brake coil, BRC and AC supplied voltage to the Brake board. Check brake coil for a short. Replace Brake board.
CAN Bus Offline (7)	Communication loss with C4 controller	Toggle 500 ms	Check CAN bus connections for miswiring/ Check CAN termination (Dip 5).
Duplicate Brake (8)	Multiple Brake boards with same DIP addressing	Toggle 250 ms	Check Brake boards for identical DIP switch setting. Remove and reconnect power to the Brake board.
Brown Out Reset (9)	Voltage rail DIP causing processor reset	Solid	Verify sufficient power supply rating for the Brake board.

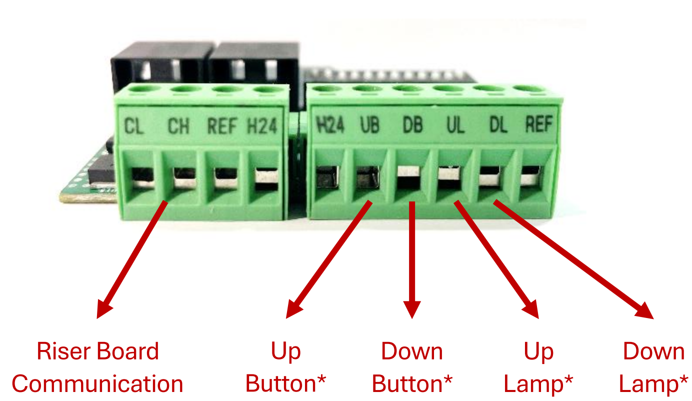
7 Hall Board SR1060

The SR1060 Hall Board is wired discretely and supplies power to the buttons and lamps on the fixture. Depending on the controller configuration, the board is available with either 10 DIP switches or 12 DIP switches.



*** = 24 VDC**

Figure 73: 10 DIP Hall Board SR1060-E



*** = 24 VDC**

Figure 74: 12 DIP Hall Board SR1060-G

The communication options with the Riser board are as follows:

- **CAN Bus** via twisted pair
- **CAT5 Cable**

The table below lists the Hall Board 10 DIP switch settings.

Table 46: Hall Board 10 DIP Switch Settings

DIP Switch	Functionality
DIP 1	Landing ID 1
DIP 2	Landing ID 2
DIP 3	Landing ID 3
DIP 4	Landing ID 4
DIP 5	Landing ID 5
DIP 6	Landing ID 6
DIP 7	Function ID 1
DIP 8	Function ID 2
DIP 9	Function ID 3
DIP 10	CAN Termination

The table below lists the Hall Board 12 DIP switch settings.

Table 47: Hall Board 12 DIP Switch Settings

DIP Switch	Functionality
DIP 1	Landing ID 1
DIP 2	Landing ID 2
DIP 3	Landing ID 3
DIP 4	Landing ID 4
DIP 5	Landing ID 5
DIP 6	Landing ID 6
DIP 7	Landing ID 7
DIP 8	Function ID 1
DIP 9	Function ID 2
DIP 10	Function ID 3
DIP 11	N/A
DIP 12	CAN Termination

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LANDING SYSTEM

1 SmartPositioning Landing System

The SmartPositioning Landing System tracks elevator speed and position with high precision and superior reliability. It incorporates a contactless dual infrared sensor system, QR Code tape and a SmartClip consolidated mounting system that reduces installation time and maintenance. The system increases performance and reliability.

The SmartPositioning Landing System consists of:

- Coded Tape.
- Sensor Array Assembly.
- Tape Clip Assembly.
- Top Tape Mount Assembly.
- Bottom Tape Mount Assembly.

1.1 Coded Tape

The tape is a special coded tape that provides the absolute positioning feedback to the CEDES camera.

Figure 75: Coded Tape

⚠ WARNING

THE TAPE EDGE IS SHARP. CUT-PROOF GLOVES MUST BE WORN WHILE HANDLING THE TAPE.

Figure 76: Gloves Required

The steps below describe how to install the tape.

1. Open the tape box at the top corner, being mindful of the sharp ends or edges, and pull out the tape as needed.

   CAUTION: Do not pull out too much tape from the box as excessive bending can occur and damage the tape.

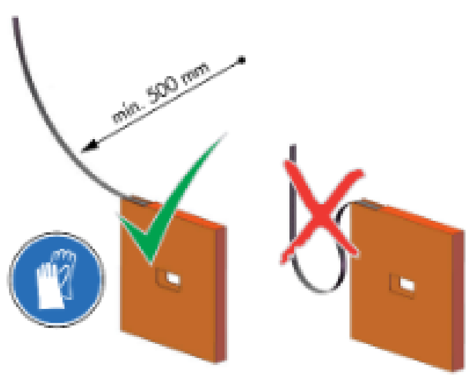

Figure 77: Tape Minimum Bend Radius

2. Serpentine and secure the tape through the bracket then zip tie the loose end.

3. Verify the words Left are on the left side of the tape with the barcode facing out towards the camera.

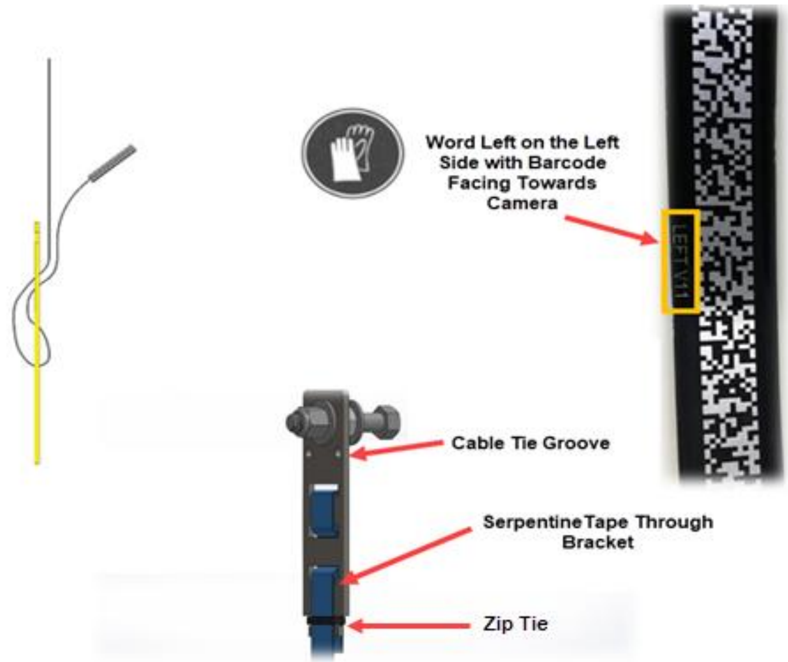

Figure 78: Routing Tape

1.2 Sensor Assembly Installation

The steps below describe how to secure the Sensor Assembly to the Car Top Frame C-Channel.

NOTE: Exact positioning and lengths of the Unistrut can be adjusted as needed if the Sensor Array is positioned as shown in the figure below.

1. Cut the lengths of Unistrut as follows:

    - Two 18”
    - One 24”

2. Bolt the two 18” lengths of Unistrut to the C-Channel.

3. Bolt the 24” length of Unistrut to the two 18” lengths of Unistrut (the 24” length may be bolted to the top of the two 18” lengths if applicable).

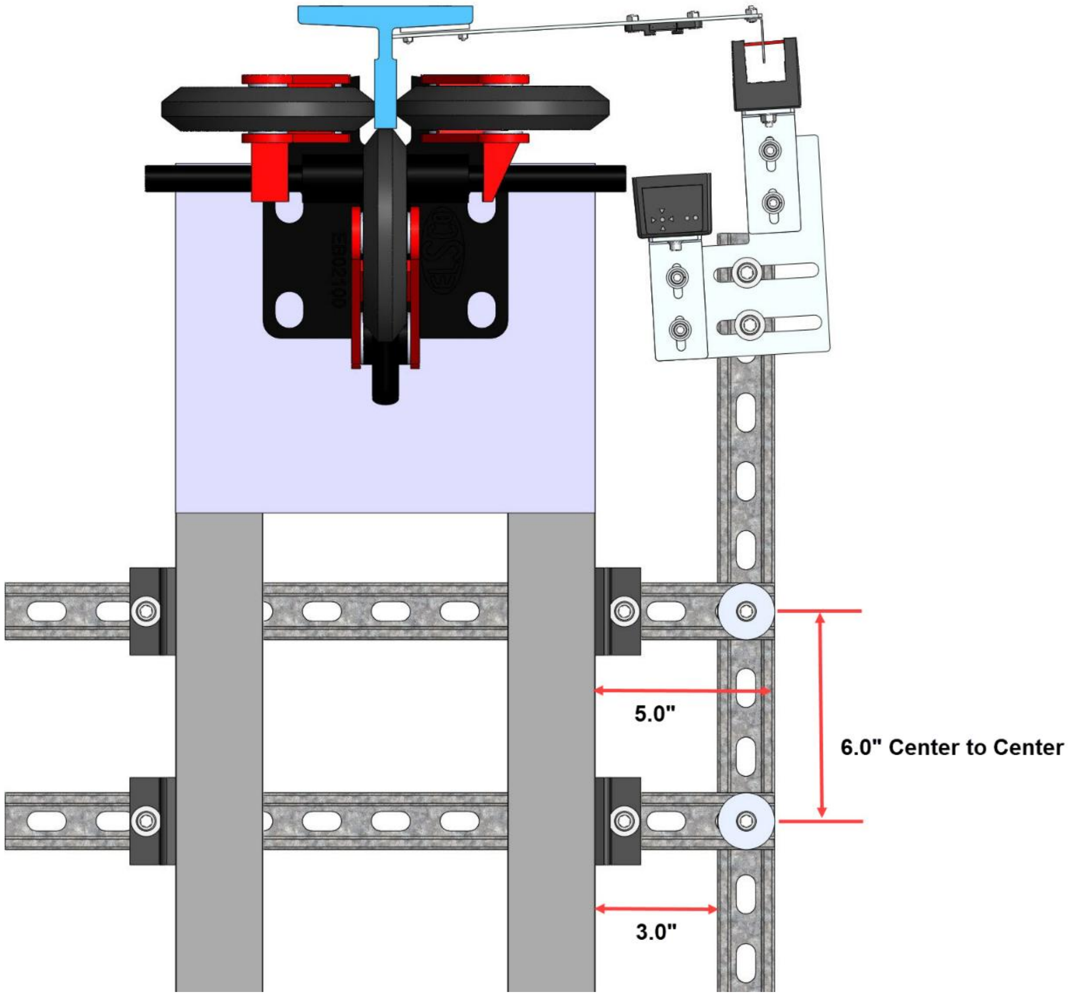

Figure 79: Unistrut Installation

4. Temporarily affix a Tape Clip Assembly on the guide rail to use as an alignment for the Sensor Array Assembly.

5. Set the end of the 24” length Unistrut at 6.5” from the rear surface of the guide rail.

6. Loosely bolt the Sensor Array Assembly onto the 24” length of Unistrut with the Door Zone Blade centered horizontally in the GLS Reader and parallel to the Tape Clip Assembly.

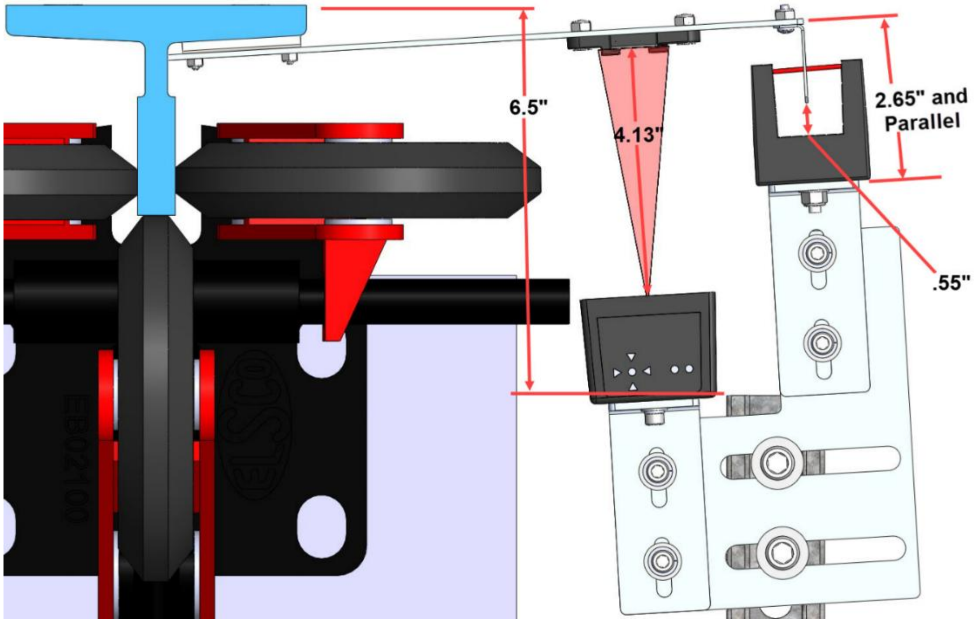

Figure 80: Sensor Array Assembly Positioning

7. Position the Sensor Array Assembly according to the distances shown then tighten all bolts (the Optical Sensor Mount bolts may be loosened if needed to adjust the position of the sensor).

8. After the Sensor Array Assembly positioning has been completed, the Sensor Array Assembly needs to be fine-tuned for proper operation (refer to section **1.7 Fine Tune**).

1.3 Upper Tape Mount Assembly

The Upper and Lower Tape Mount Assemblies are located as shown in the image below.

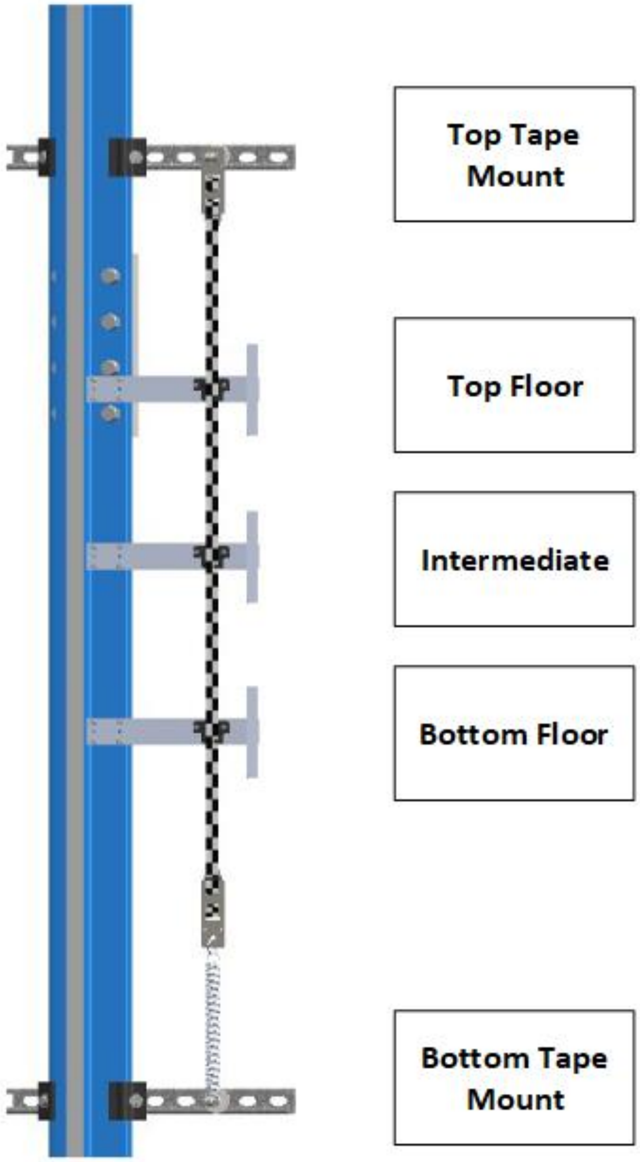

Figure 81: Location of Tape Mount Assemblies

The following procedure describes how to install the Upper Tape Mount Assembly.

1. Affix an 18" length of Unistrut to the top of the guide rail.

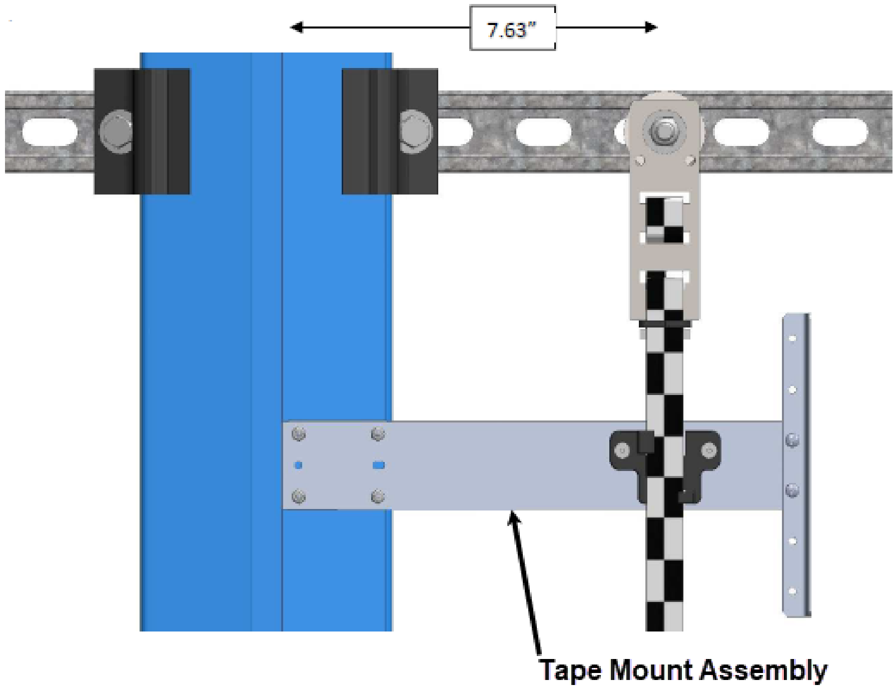

Figure 82: Upper Tape Unistrut Installation

2. Loosely attach the hardware to the Upper Tape Mount Assembly.

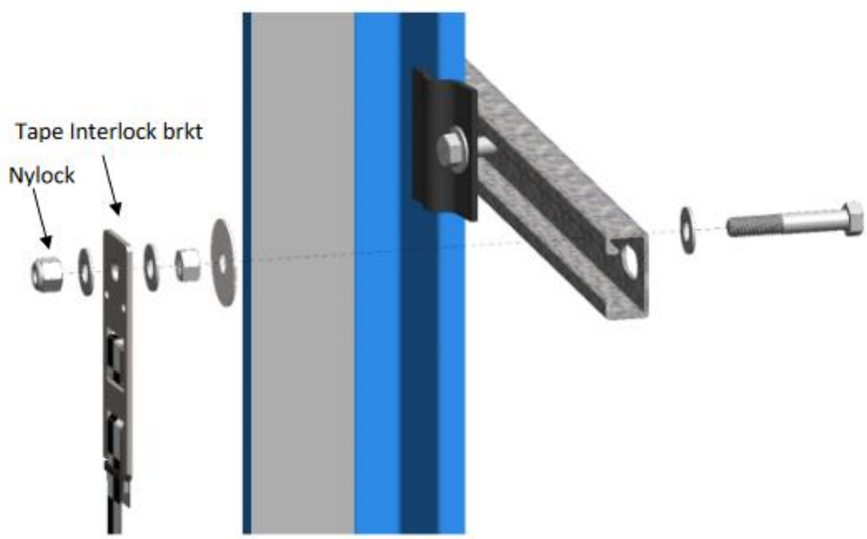

Figure 83: Hardware

3. Position the Upper Tape Mount assembly 7.63" from the wheel surface of the guide rail to the center of the 3/8" bolt.

4. Temporarily affix a Tape Clip Assembly to the guide rail and onto the tape to verify location.

5. Tighten the first hex nut to secure the assembly in place.

6. Thread the Nylock nut on the bolt until there is a 0.2" gap between the two flat washers that are on either side of the Tape Interlock bracket. This gap is required to relieve twist in the tape.

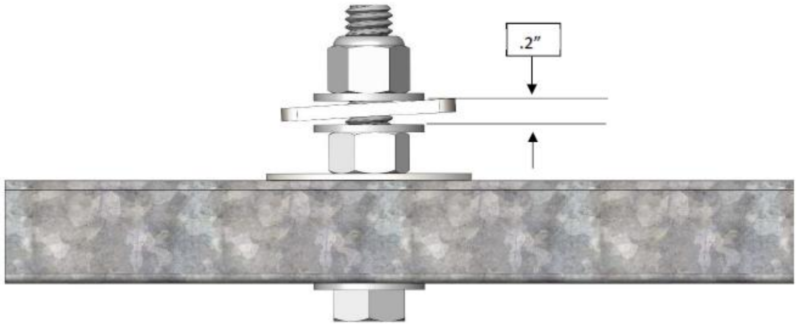

Figure 84: Gap Verification

1.4 Tape Clip Assembly

While descending, unspool the tape, install the Tape Clip Assemblies and set the Door Zones (DZ).

The Tape Clip Assembly includes:

- Tape guide clip
- Door zone blade
- Mounting magnets (preassembled)

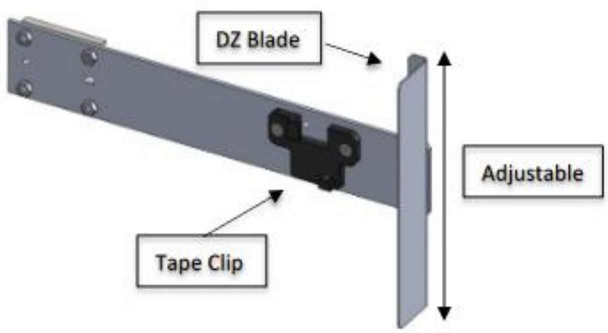

Figure 85: Tape Clip Assembly

In applications where there is 15 ft of distance between door zones, an extra bracket needs to be placed between those door zones. The bracket will only contain the tape clip and NOT the DZ blade. This will minimize tape twisting caused by long distances between the door zones. These extra tape clip brackets will be provided as needed.

The following steps describe how to install the Tape Clip Assembly.

1. Bring the car to floor level.

2. Clean the rail surface at the intended Tape Clip Assembly location.

3. While securing the Tape Clip Assembly with one hand and guiding the tape with the other, rotate the tape into the clip. Avoid twisting or bending the tape to prevent damage.

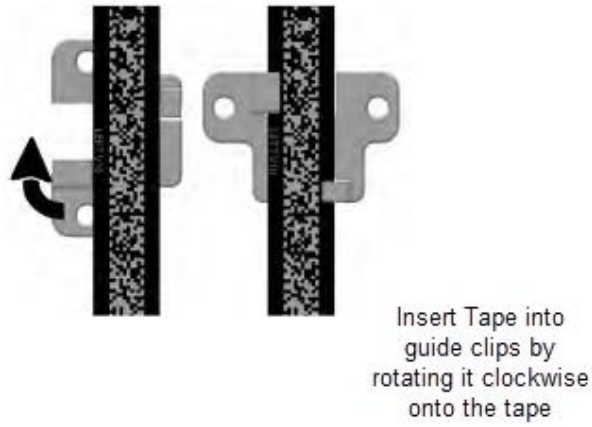

Figure 86: Tape Clip Insertion

4. Place the Tape Clip Assembly onto the guide rail with the edge flush to the rail. Strong magnets are used. Do not remove the bracket from the rail by pulling from the far end, as this may cause the bracket to bend.

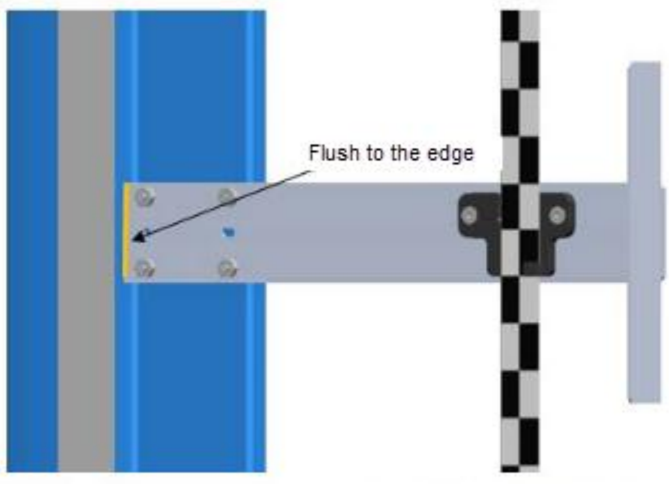

Figure 87: Tape Clip Assembly Alignment

5. Verify that the DZ blade is vertically centered with the GLS Reader optical axis.

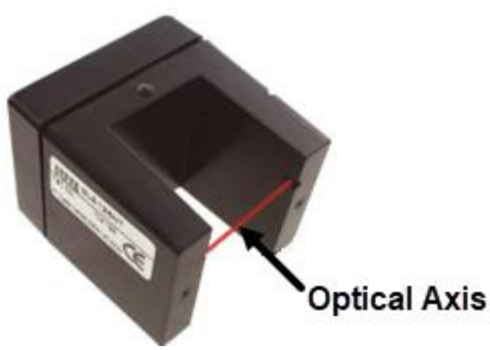

Figure 88: Optical Axis

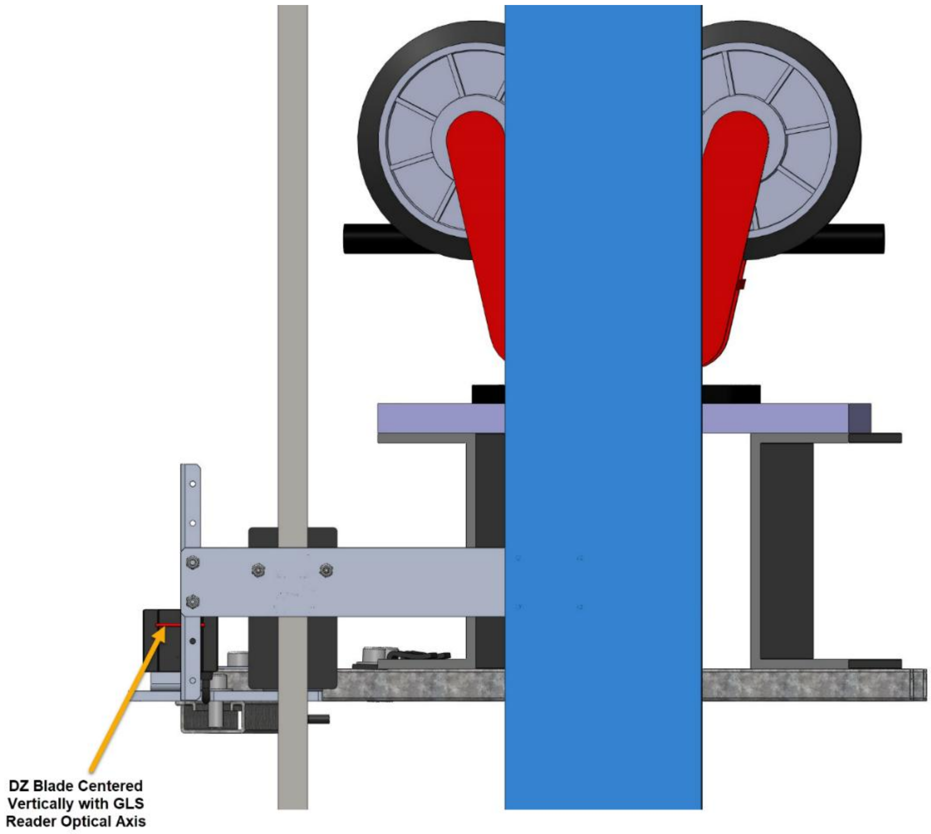

Figure 89: Tape Clip Assembly Placement (Rear View)

6. Check for any bolts or obstructions preventing placement of the Tape Clip Assembly at the required location.

   i. If bolts or other obstructions are present, remove the two screws, washers, and nuts securing the DZ blade, then adjust the blade up or down. Proceed to Step 7.
   ii. If no obstructions are present, proceed to step 9.

7. Confirm that the Tape Clip Assembly has been placed correctly after adjusting the DZ blade.

   i. If obstructions remain, install a DZ extension arm. Proceed to Step 8.
   ii. If no obstructions remain, go to step 9.

8. Install the extension arm as follows:

   i. Remove the DZ blade from the Tape Clip Assembly.
   ii. Install the door zone extension arm using the original screws, nuts, and washers.
   iii. Using two additional screws, nuts, and washers provided in the installation kit, mount the DZ blade to the extension arm at the desired position.

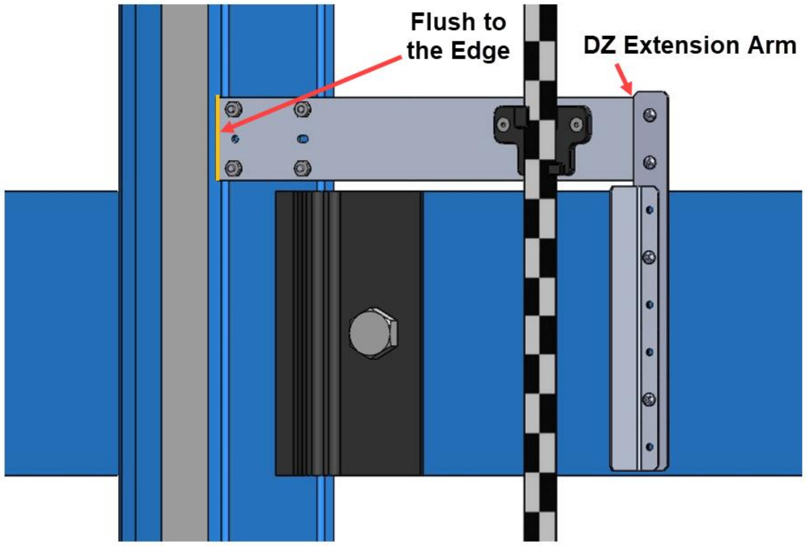

Figure 90: Tape Clip Assembly Alignment

9. Continue down the hoistway, placing the Tape Clip Assembly at each landing.

1.5 Lower Tape Mount Assembly

The following procedure describes how to install the Lower Tape Mount Assembly.

1. Affix an 18” length of Unistrut to the bottom of the guide rail.
2. Loosely attach the hardware to the Lower Tape Mount Assembly.
3. Position the Lower Tape Mount Assembly 7.6” from the surface of the guide rail to the center of the 3/8” bolt.

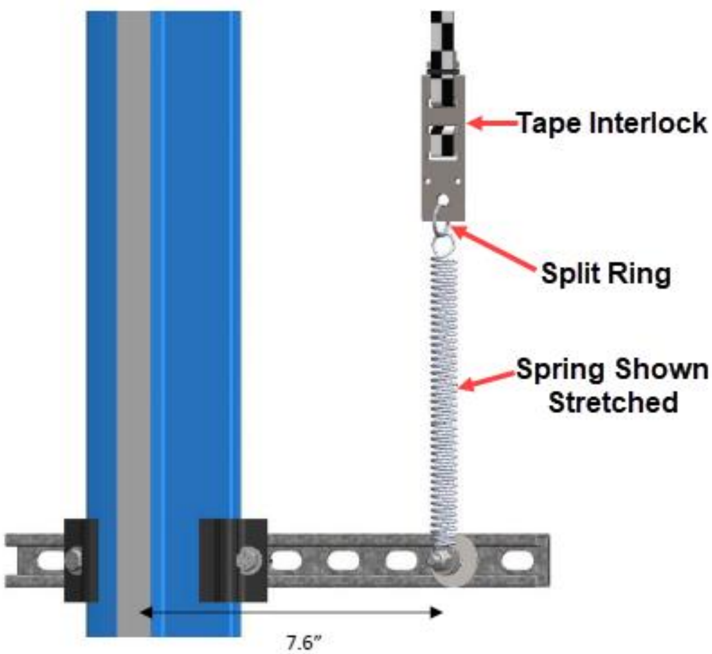

Figure 91: Lower Tape Mount Assembly

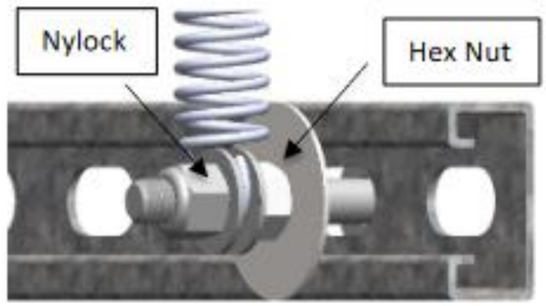

Figure 92: Hardware to Lower Tape Mount Assembly

4. Tighten the first hex nut to secure the Lower Tape Mount Assembly in place.

5. Thread the Nylock nut onto the bolt until the two flat washers located on each side of the spring are just touching the spring loop. This nut does not need to be tightened.

6. Connect the spring to the tape interlock bracket using the split ring.

7. Adjust the spring tension by raising or lowering the Unistrut mounting point so that the spring is stretched to approximately 3”.

1.6 Sensor Array Assembly

The Sensor Array Assembly contains the CEDES Optical Sensor, CEDES Exact Position GLS Reader, mounting brackets, and associated hardware. The sensors can be oriented differently as long as the corresponding tape and blades are aligned correctly.

After assembly is complete, connect the CEDES Optical Sensor and the CEDES Exact Position GLS Reader to the CT board and secure cabling.

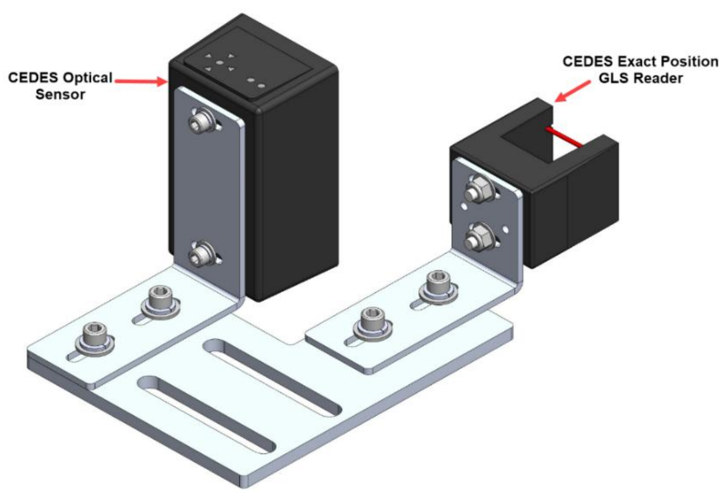

Figure 93: Sensor Array Assembly

The Cedes Optical Sensor and Reader can be connected to either side of the sensor base plate depending upon which side the Sensor Array Assembly is connected to the C-Channel.

The following procedure describes how to connect the Optical Sensor and Reader to either side of the sensor base plate.

1. Remove screws, lock washers, and washers securing the sensor and reader brackets to the sensor base plate.
2. Remove both sensor and reader brackets from the sensor base plate.
3. Flip the sensor base plate.
4. Place the sensor and reader brackets back onto the sensor base plate and secure.

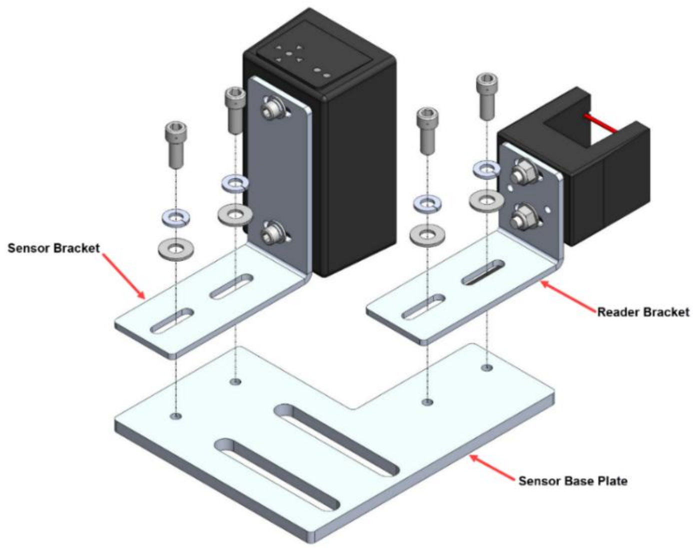

Figure 94: Sensor Array Assembly (Right Side)

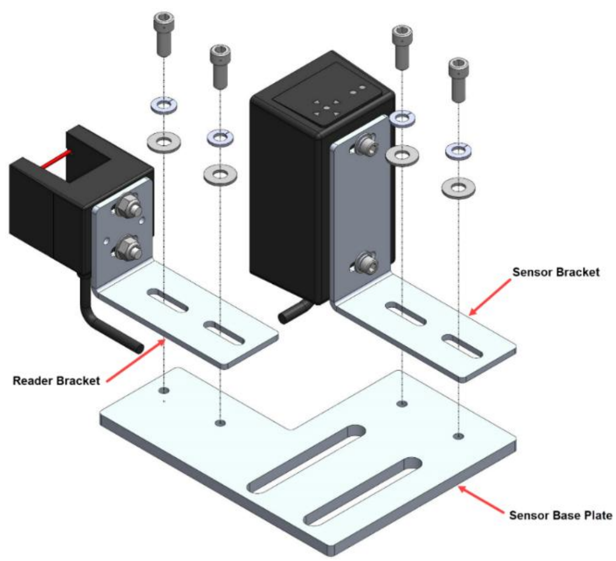

Figure 95: Sensor Array Assembly (Left Side)

A Dual Sensor Array Assembly can be installed if applicable.

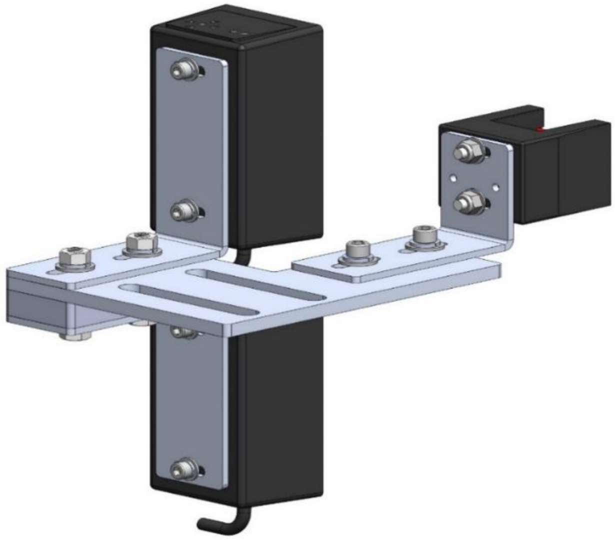

Figure 96: Dual Sensor Array Assembly

The following procedure describes how to connect the Optical Sensor and Reader to either side of the sensor base plate used on a Dual Sensor Array Assembly.

1. Remove screws, lock washers, and washers securing both optical sensors to the sensor brackets and remove optical sensors.

2. Remove screws, lock washers, and washers securing the reader bracket to the bottom sensor base plate and remove reader bracket.

   NOTE: Do not remove the reader from the reader bracket.

3. Flip the sensor base plate. The spacer is secured to the top of the sensor base plate.

4. Place both optical sensors back onto the sensor brackets with the optical sensor cables facing down and secure.

5. Place the reader bracket back onto the sensor base plate and secure.

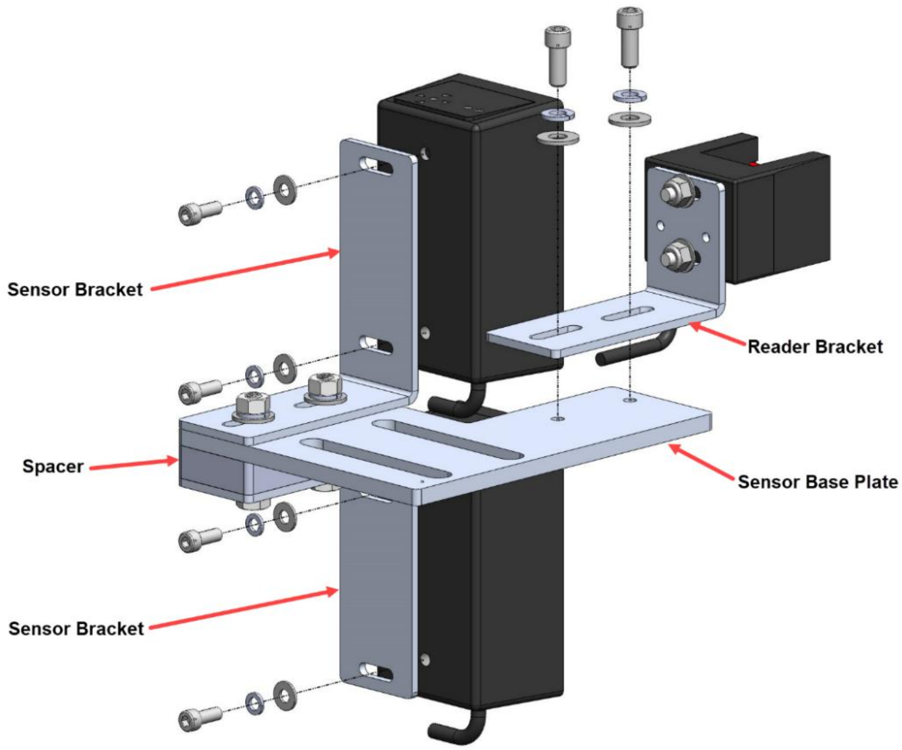

Figure 97: Dual Sensor Array Assembly (Right Side)

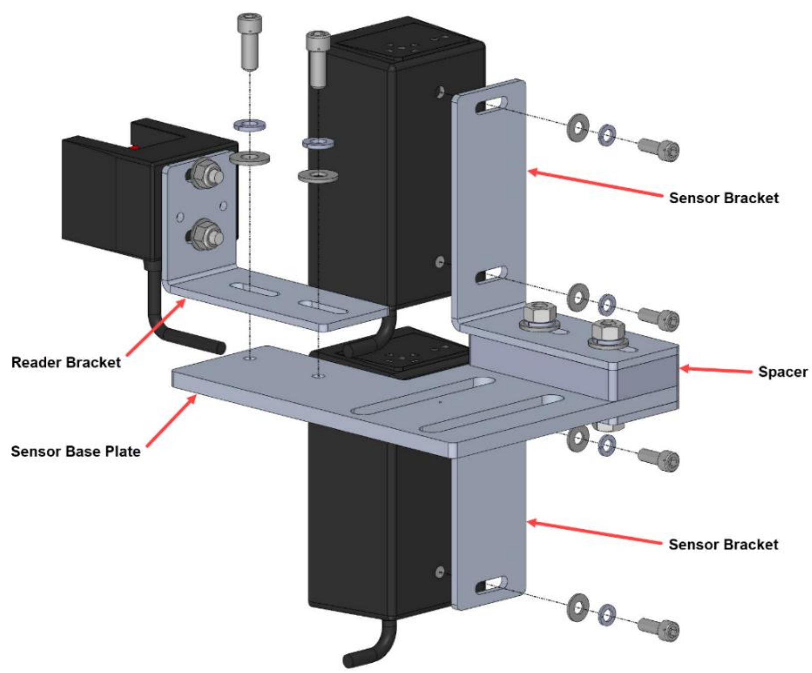

Figure 98: Dual Sensor Array Assembly (Left Side)

1.7 Fine Tune

Prior to fine tune, verify the Sensor Array Assembly placement. The Sensor Array Assembly should be at a distance of 4.13" with a tolerance of ±1 cm from the tape and parallel to the tape clip mounting brackets.
The optical sensor and reader can move front and back, and side to side as applicable.

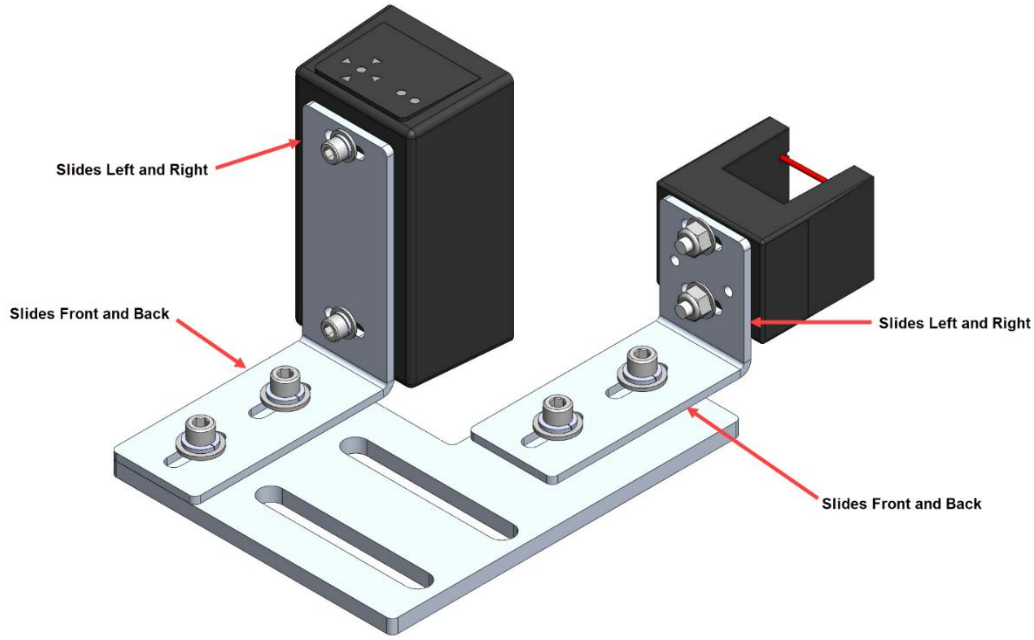

Figure 99: Sensor Array Assembly Adjustment

Power the APS camera via a RJ45 cable to the CT board so a red array can be seen on the tape to allow for alignment. If there is no red array on the tape, reset the power by disconnecting and reconnecting the RJ45 cable to the CT board CAT5 connector.

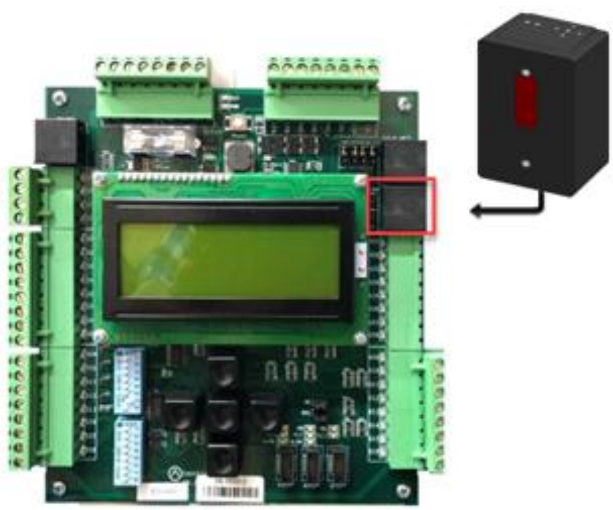

Figure 100: RJ45 Connection

Proceed on Inspection up and down the hoistway and adjust each tape guide clip to the correct in-line position with respect to the Sensor Array Assembly.

The camera powers up when the CT station is powered up.

1.8 Alignment

Alignment and Position Status LEDs are located on top of the optical sensor. These LEDs are used to align the sensor to the tape.

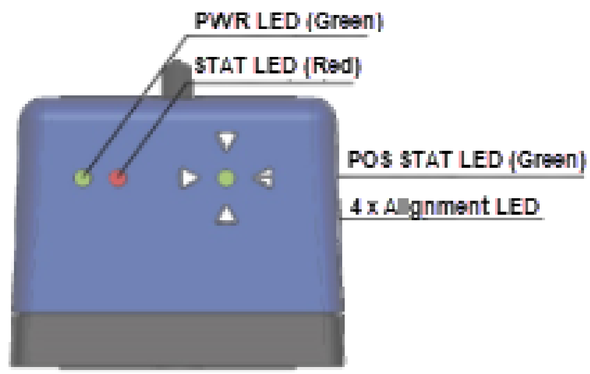

Figure 101: Optical Sensor LEDs

When the optical sensor needs to be aligned, the red arrow LEDs indicate which way to move the sensor.

The following procedure describes how to align the optical sensor.

1. Loosen the two mounting bolts on sensor base plate or sensor bracket to adjust the sensor position, as required.

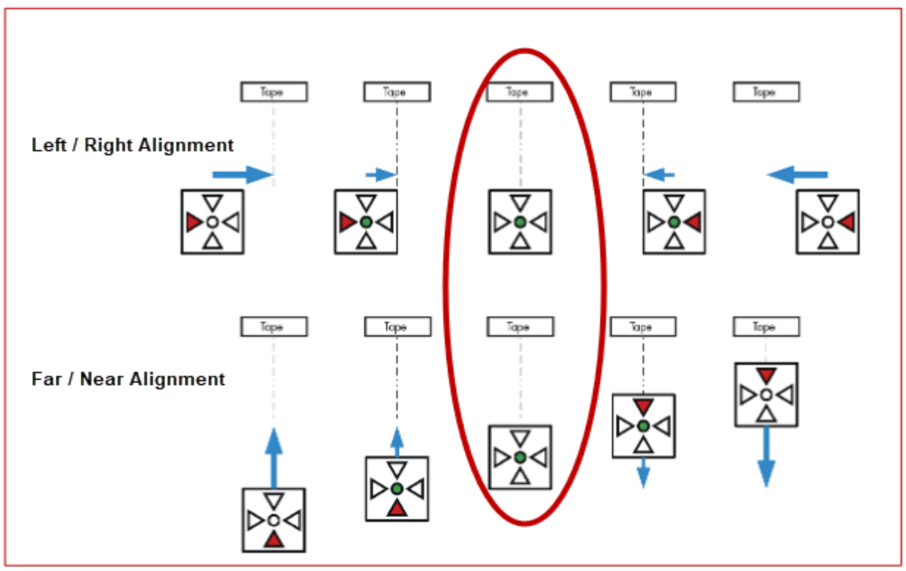

Figure 102: Alignment Arrows

2. Position the sensor according to the LEDs.

   - **Left / Right Alignment** – Using the direction arrows on top of the sensor, move the camera left or right until only the green POS STAT LED is on.
   - **Far / Near Alignment** – Using the directional arrows on top of the sensor, move the sensor closer to or further away from the tape until only the green POS STAT LED in on.

3. Once the sensor is aligned, tighten the two mounting bolts to the sensor base plate or sensor bracket as applicable.

4. Run the car on Inspection from terminal to terminal while watching the POS LED on top of the sensor.

5. Check whether the sensor is aligned with the tape for the entire length of travel.

    i. If the sensor is aligned, the process ends.
    ii. If the sensor is not aligned, go to step 1.

NOTE: as the car runs up and down the hoistway, the red alignment arrow LEDs may flash on and off. This is OK if the center green LED stays on.

2 Short Floor

In cases where there is a short floor distance (6 inches or less) between the front and rear openings, a secondary door zone blade should be installed to the other side of the primary door zone blade.

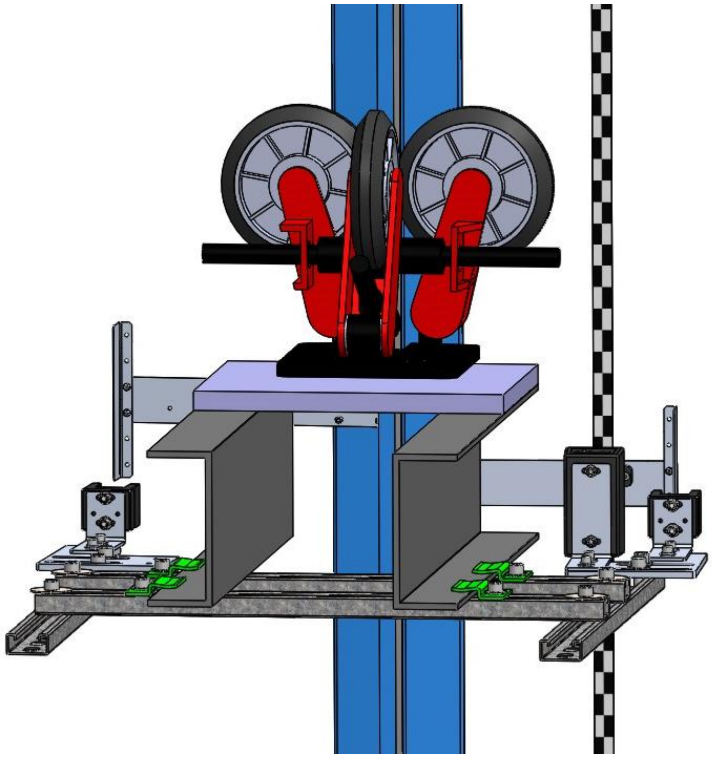

Figure 103: Dual Door Zone Blade & Reader (I)

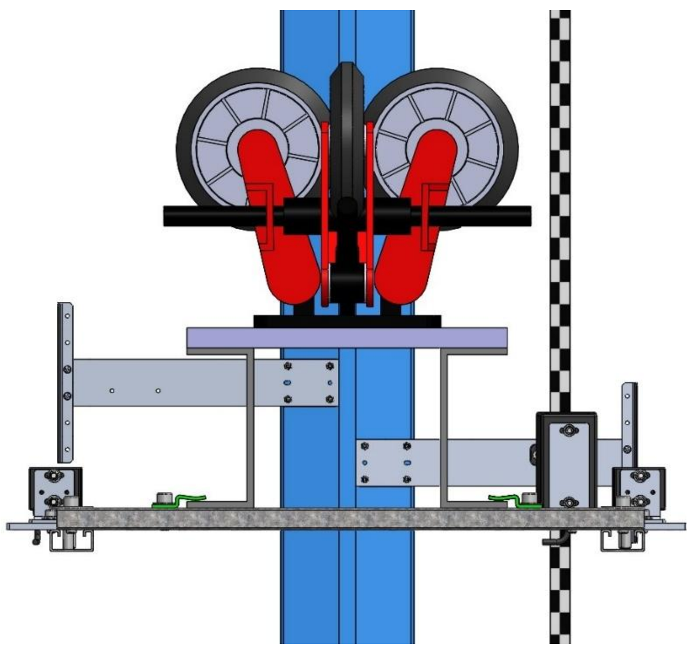

Figure 104: Dual Door Zone Blade & Reader (II)

3 ELGO Landing System

The Smartrise ELGO Landing System provides high-precision elevator position tracking with superior reliability. Position is determined using a coded magnetic strip that passes through a sensor, allowing for contact-free position detection. The door zone sensing is also completely contact-less.

Key Features

- No mechanical contact required
- No alignment or contrast monitoring needed
- High accuracy and reliability

3.1 Installation Sequence

Installation of the ELGO Landing System shall be completed in the sequence listed below. Following the recommended installation order ensures proper alignment between the magnetic tape and tape reader, as well as between the door zone magnets and proximity sensor.

Maintaining the magnetic tape parallel to the guide rail is critical to prevent tape bowing and premature wear of the tape reader guides. The upper and lower tape mount brackets do not include adjustment features, ensuring consistent tape spacing along the guide rail. Similarly, the door zone brackets do not include adjustment features, ensuring consistent spacing between the door zone magnets and guide rail. Alignment adjustments are performed using the tape reader and proximity sensor mounting brackets.

1. Sensor Array Assembly
2. Upper Tape Mount Installation
3. Lower Tape Mount Installation
4. Sensor Array Mounting and Alignment
5. Door Zone Assembly Placement
6. Short Floor Door Zone Assembly Placement (if applicable)

3.2 Sensor Array Assembly

The sensor array assembly consists of two sheet-metal brackets, the tape reader, the proximity sensor, and associated mounting hardware. The tape reader and proximity sensor are position-adjustable to enable precise alignment with the magnetic tape and the door-zone magnet.

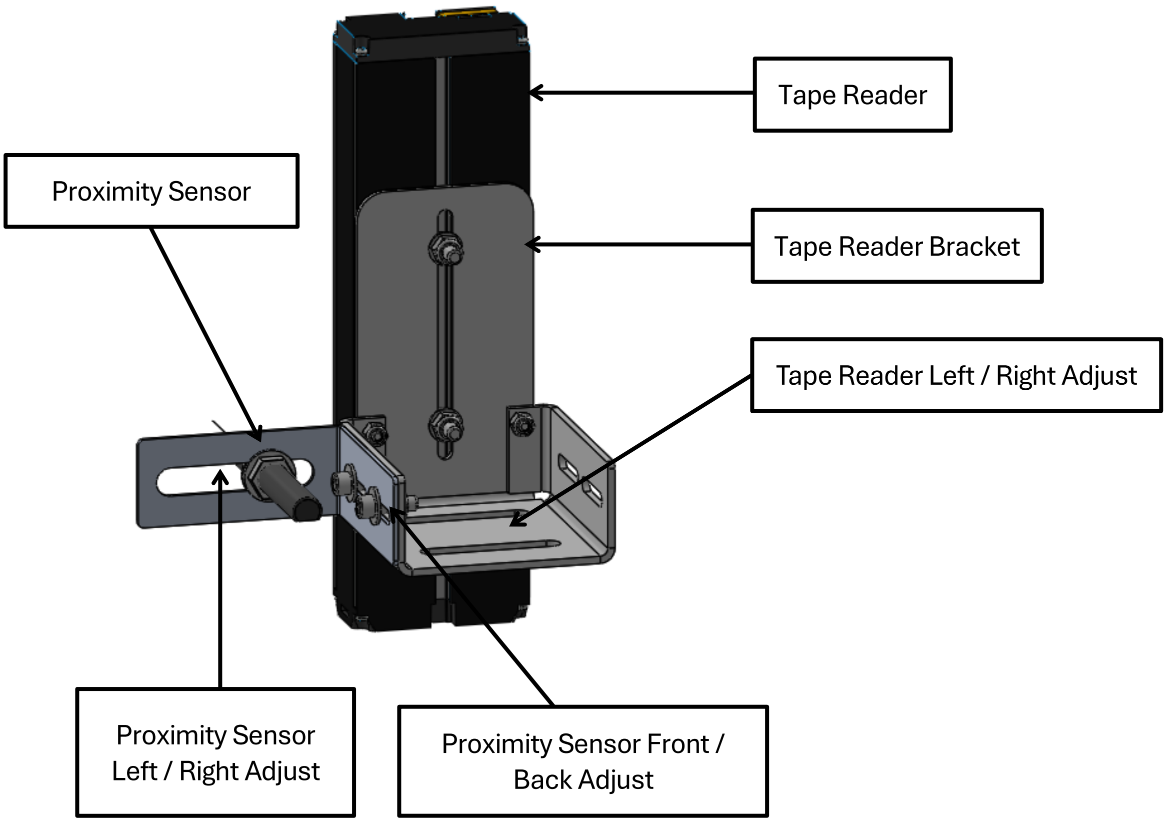

Figure 105: Sensor Array Assembly

3.2.1 LIMAX1R Unit Assembly

The LIMAX1R sensor reads absolute elevator position from the magnetic tape. The tape is constructed from stainless steel and contains embedded magnetic position data.

The LIMAX1R assembly includes:

- Position sensor
- Cable
- Mounting clips
- IP54 Protective Cover

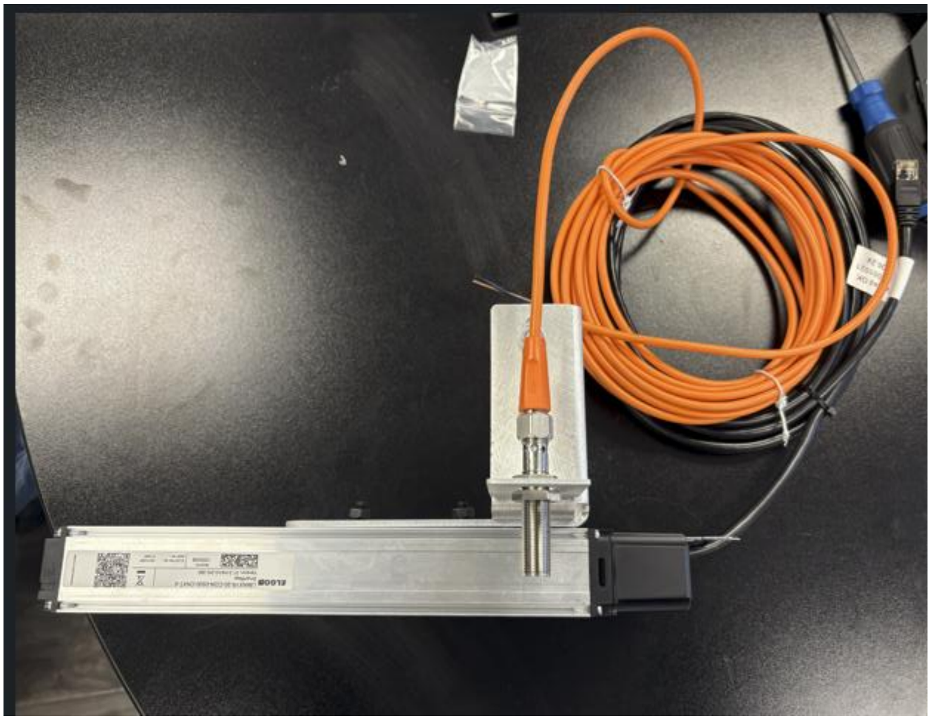

Figure 106: LIMAXR1 Reader and Proximity Sensor Mounted in One Kit

3.2.2 Magnetic Tape Installation

The magnetic tape is a stainless steel tape that provides absolute positioning information.

WARNING

TAPE EDGES ARE SHARP. CUT-PROOF GLOVES MUST BE WORN WHILE HANDLING THE TAPE.

Figure 107: Gloves Required

The magnetic tape is to be installed from the top to the bottom of the hoistway. Verify the magnetic tape has the magnetic side facing the sensor and has the directional arrows on the tape pointing upward (toward the top of the Hoistway). Refer the **ELGO Operating Manual** for detailed instructions.

3.2.3 Magnetic Tape and Sensor Installation

The tape consists of a steel side and a magnetized side. When installing the magnetic tape through the tape guide, the steel side of the tape must touch the guide.

Installation Methods

- **Method 1: Feed-Through**

  1. Feed the tape through the guide rail from one end to the other.

- **Method 2: Guide Removal**

    1. Remove the cotter pin from the channel.
    2. Remove the tape guide.
    3. Place the tape onto the sensor housing.
    4. Reinstall the tape guide.
    5. Reinstall the cotter pin.

Mounting Procedure

1. Ensure arrows on the tape point upward.
2. Insert the tape into the grooves of the upper mount:
    - From bottom → inside → up → inside
3. Secure the tape using provided zip tie.

Figure 108: Tape Routing

4. Place the tape onto the sensor housing.

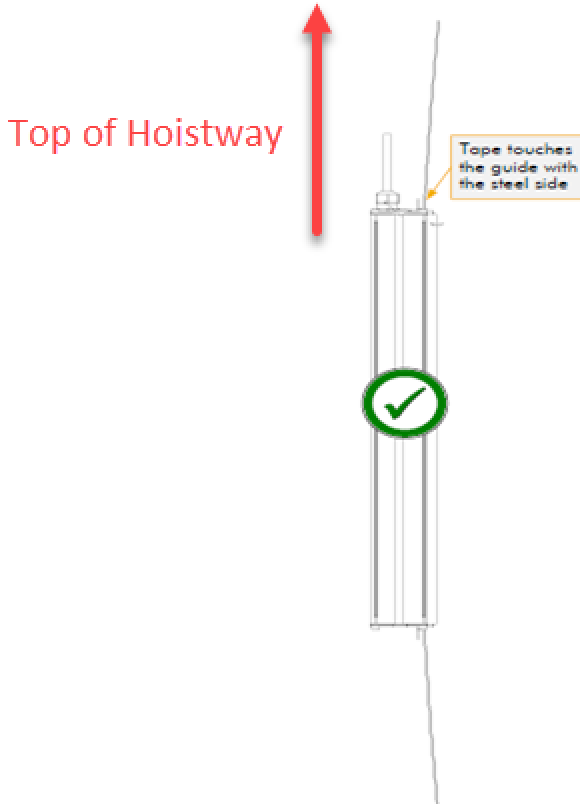

Figure 109: Sensor Placement

Repeat the same procedure for the bottom mount assembly.

3.2.4 Unistrut (Machine #4), 28" length

Three (3) Unistrut channels for the standard cab, each 28 inches in length, are provided. These slotted mounting rails are used to securely install and support the sensor assembly, including the proximity "cigar" sensor.

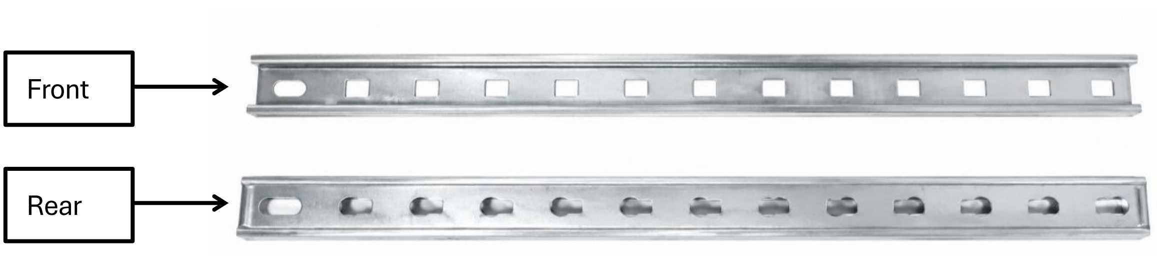

Figure 110: Unistrut

3.3 Upper Tape Mount

The upper tape mount assembly secures the magnetic tape at the top of the hoistway. Adjustable rail clamps and shims allow installation on a variety of guide rail profiles.

To accommodate different guide rail sizes, rail clamps are supplied with shims that increase the clamping height. Add or remove shims as required for the guide rail being installed.

NOTE: The Upper Tape Mount assembly is supplied preassembled. The nut securing the tape interlock bracket is intentionally tightened only enough to retain the bracket while allowing the bracket to pivot freely on the bolt.

1. Loosen rail clamps enough that they can fit over the lip of the rail edges. Use shims as needed.

Table 48: Shim Requirements Based on Rail Edge Thickness, T-Rail

Rail Edge Thickness	Number of Shims Needed
0.35 – 0.46”	0
0.46 – 0.6”	1
> 0.6”	2

2. Place bracket behind rail with clamps on either side.

3. Shift bracket so that the fixed clamp is in place against the rail and lightly tighten this clamp.

4. Slide adjustable clamp up to other side of rail and tighten.

5. Torque bolts for both clamps to 15ft-lbs.

6. Making sure that the magnetic surface of the tape faces inward, car side, serpentine and secure the tape through the bracket then zip tie loose end as shown below.

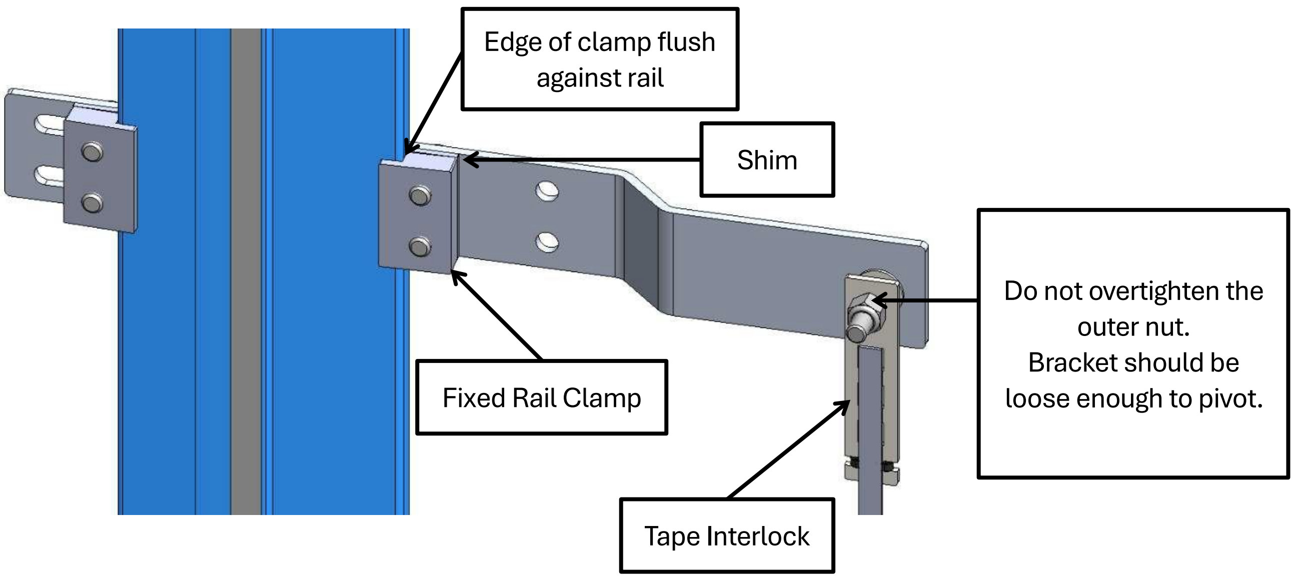

Figure 111: Upper Tape Mount, T-Rail

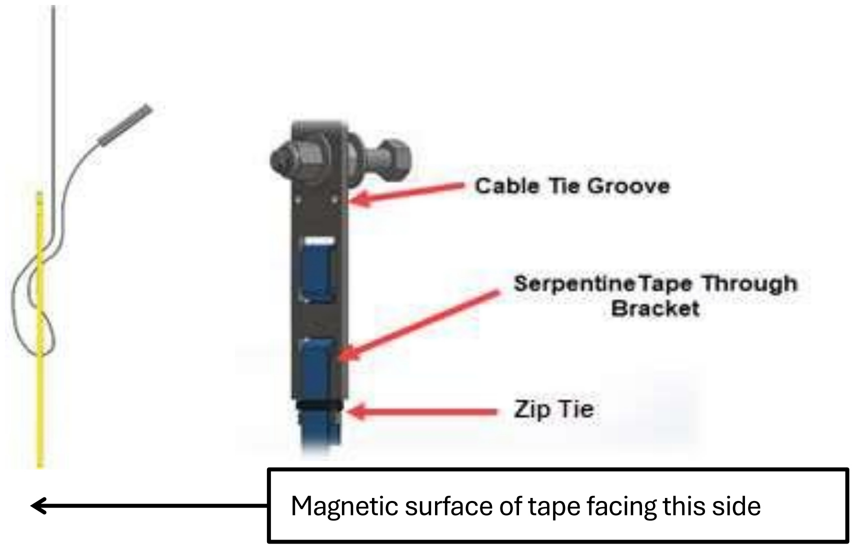

Figure 112: Tape Interlock Bracket

3.4 Lower Tape Mount

This section describes the procedure for installing the lower magnetic tape mount and setting proper tape tension.

Follow the same installation steps as described in the **Upper Tape Mounting**, with the addition of a tensioning spring installed between the tape interlock bracket and the spring perch on the lower mounting bracket.

NOTE: The spring is supplied preassembled to the tape interlock bracket. The spring perch bracket includes a hook feature for fast, tool-free installation. After installation of the lower mount bracket and routing of the magnetic tape through the tape interlock bracket, attach the spring to the spring perch.

1. Cut the magnetic tape to the required length, allowing sufficient extra length to thread it through the interlock bracket, about 7-8” (20cm), and secure it to the tape interlock bracket as described in the **Upper Tape Mounting** section.

2. Once the tape has been cut and secured to the interlock bracket, hook the spring to the spring perch.

3. Loosen the guide rail clamps and slide the lower tape mount assembly up or down to adjust the spring tension.

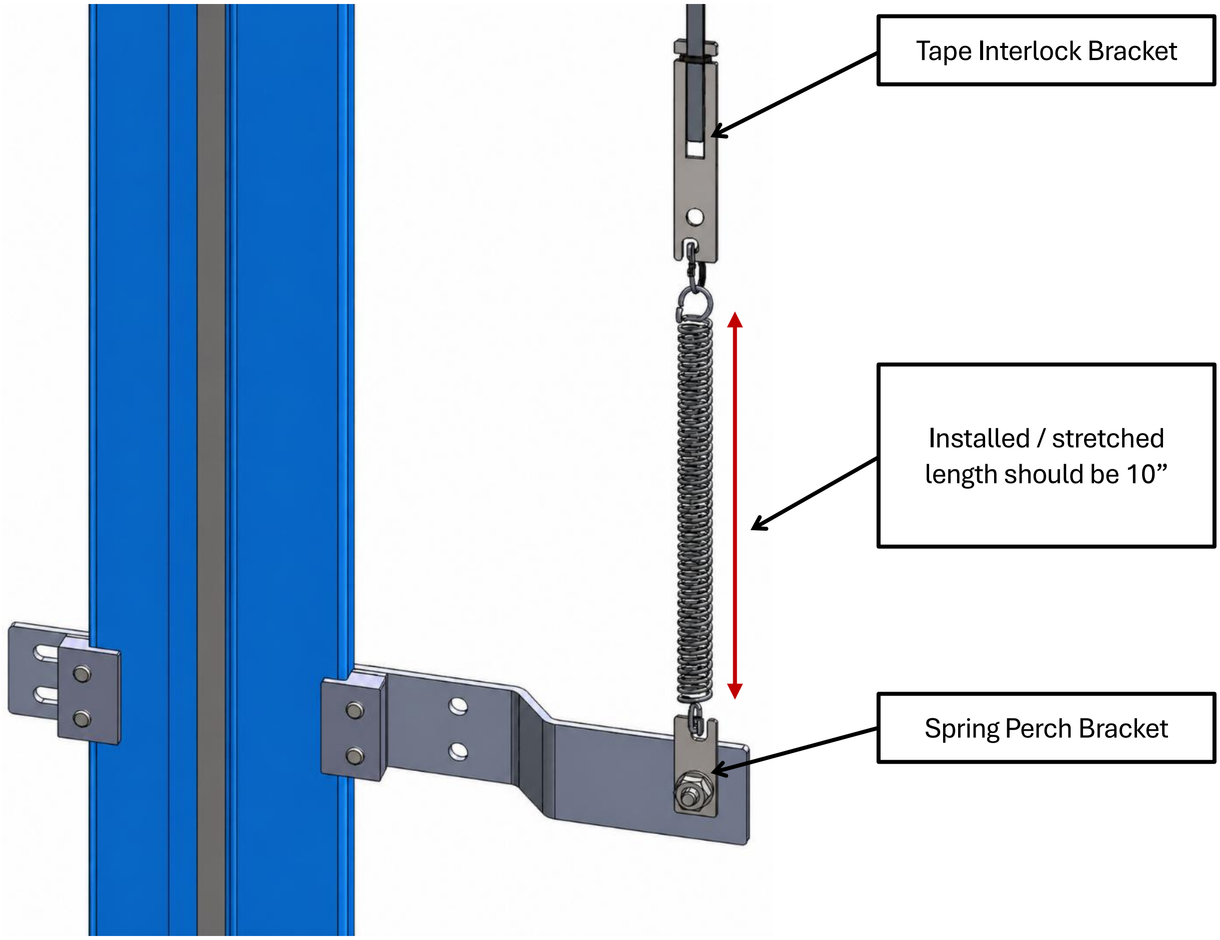

Figure 113: Lower Tape Mount, T-Rail

3.5 Sensor Array Mounting & Alignment

Proper sensor alignment is essential for reliable position sensing and door zone detection. The mounting arrangement shown below accommodates a variety of hoistway, guide rail, and car configurations.

1. Suggested mounting example using Unistrut clamped to cart support beams shown in the figure below.
2. Mount the Unistrut to the top of the car beams as shown below.
3. Mount the tape reader bracket to the Unistrut with the 3/8-16 bolts provided.
4. Adjust the tape reader position front-to-back using the mounting beam (Unistrut shown below). Position the tape reader so that the magnetic tape is flush with the reader slot.

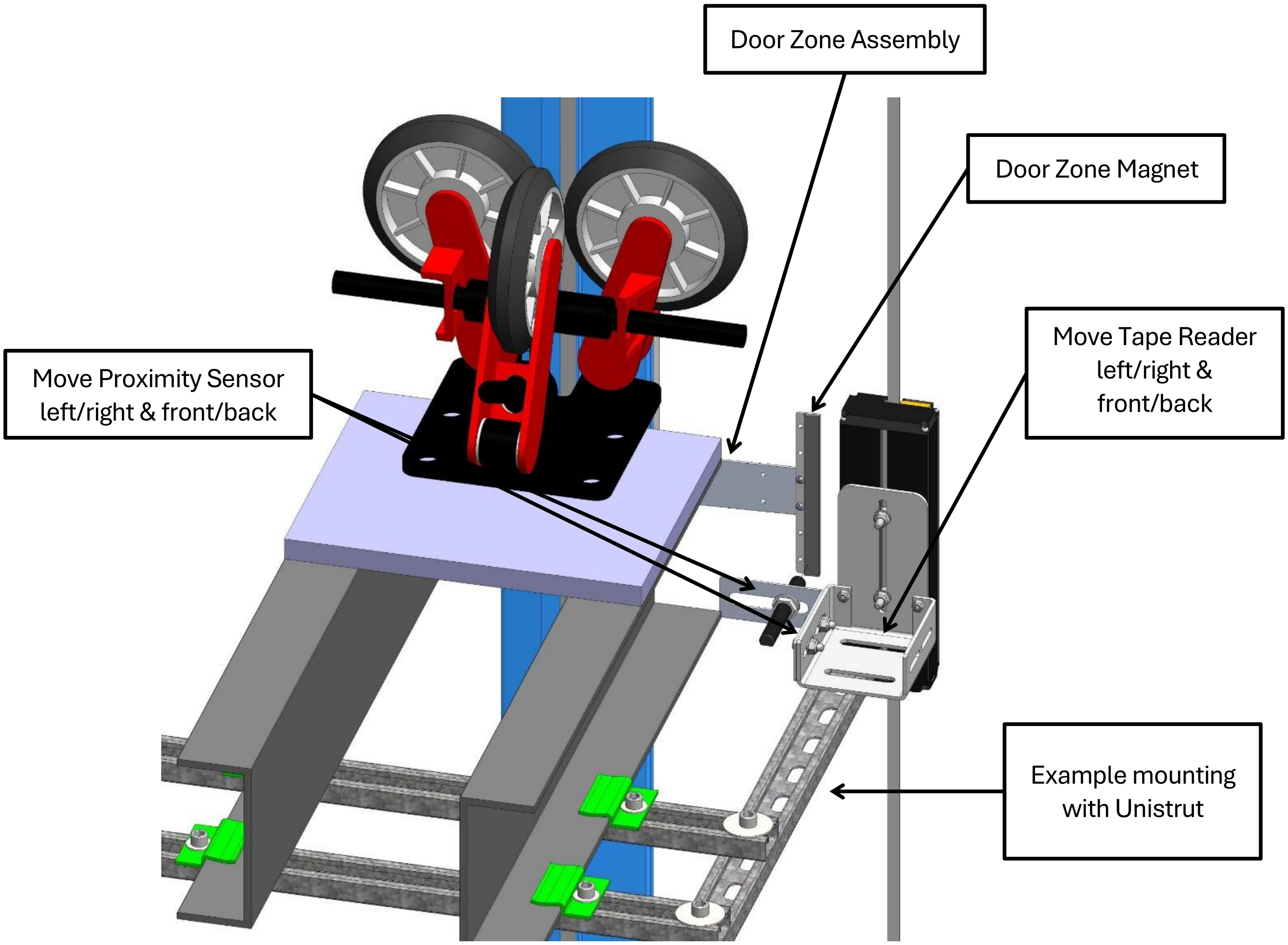

Figure 114: Sensor Array Mounting, T-Rail

5. Adjust the position of the tape reader left to right using the slots in the base of the tape reader mounting bracket. Center reader left/right with magnetic tape.

6. The tape should hang freely vertically with no bowing front to back or side to side.

7. Temporarily affix a door zone assembly to the guide rial to use for alignment of the Proximity Sensor.

8. Adjust the position of the proximity sensor by centering the proximity sensor horizontally with the magnet strip as shown in the figure below. Ensure that the distance between the sensor head and the magnet is set between 1 – 1.5 inches.

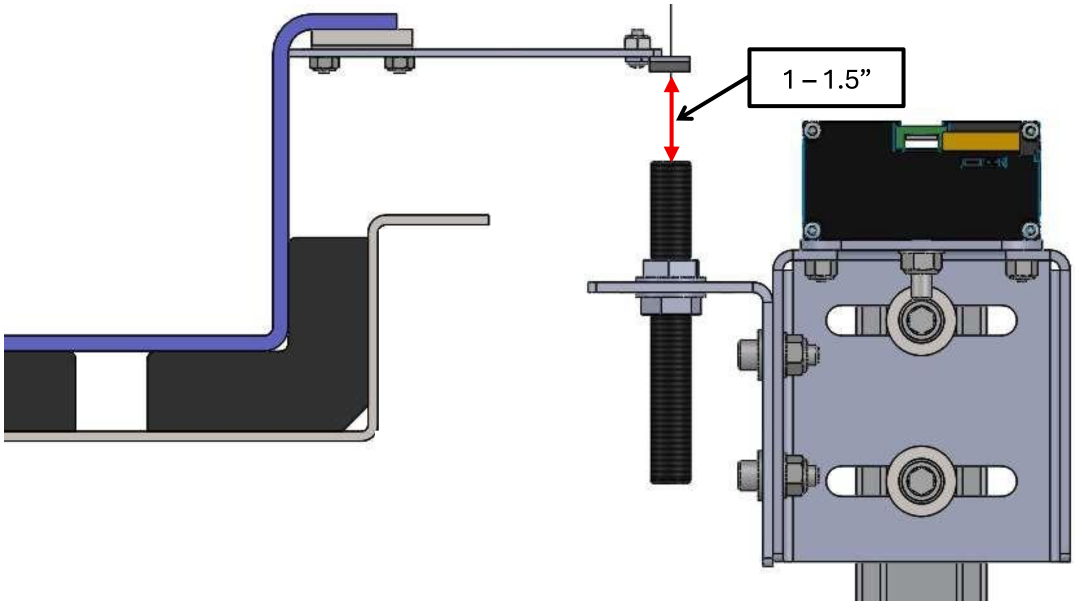

Figure 115: Proximity Sensor Alignment

3.6 Door Zone Assembly Placement

Door zone assemblies provide landing position references for the proximity sensor. Install one door zone assembly at each landing while progressing down the hoistway.

As the magnetic tape is unspooled, install the door zone assemblies at each floor level.

1. Bring the car to floor level.
2. Wipe the rail clean where the door zone assembly will be mounted.
3. Place the assembly onto the guide rail with the inner edge of the bracket flush to the rail.

   CAUTION: These are strong magnets. Do not remove the bracket from the rail by pulling the bracket from the end as this may bend the bracket.

4. Verify that the door zone magnet is centered vertically with the proximity sensor.

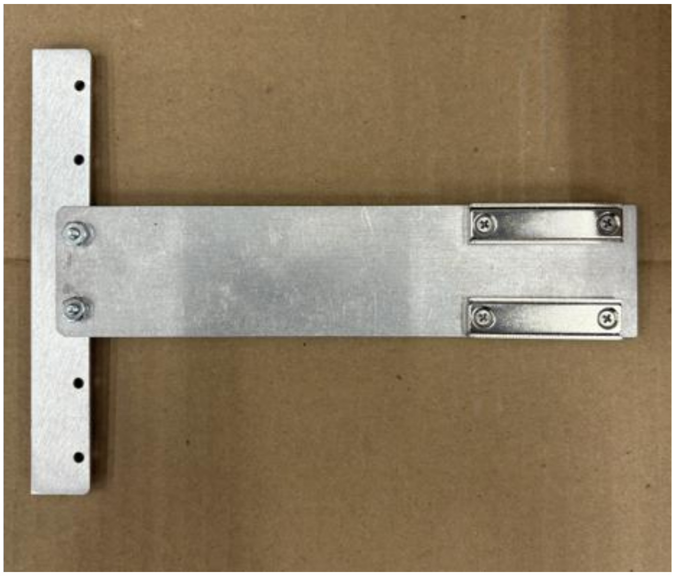

Figure 116: T-Rail DZ bracket, DZ 7.7''

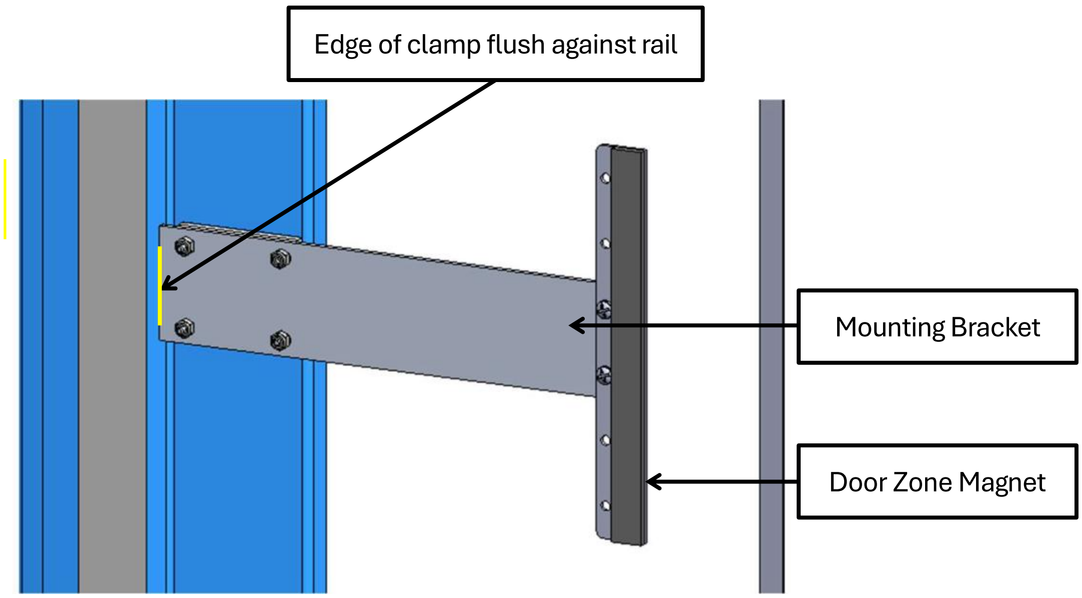

Figure 117: Door Zone Assembly Placement, T-Rail

5. Are there any bolts or obstructions preventing the door zone assembly from being placed where needed?

   i. If there are bolts or other obstructions, remove the two screws, washers and nuts securing the door zone magnet and adjust the magnet up or down. Go to step 6.

   ii. If there are no obstructions, go to step 8.

6. Has the door zone assembly been placed as needed after the door zone magnet has been moved up and down?

   i. If there are still obstructions, a door zone extension arm is required. Go to step 7.

   ii. If there are no obstructions, go to step 8.

7. Install extension arm as follows:

    i. Remove the door zone magnet from the mounting bracket.

    ii. Install the door zone extension arm using the same screws, nuts, and washers removed in step i.

    iii. Using two more screws, nuts and washers provided in the install kit, mount the door zone magnet to the door zone extension arm at the desired location.

8. Continue down the hoistway, placing the door zone assembly at each landing.

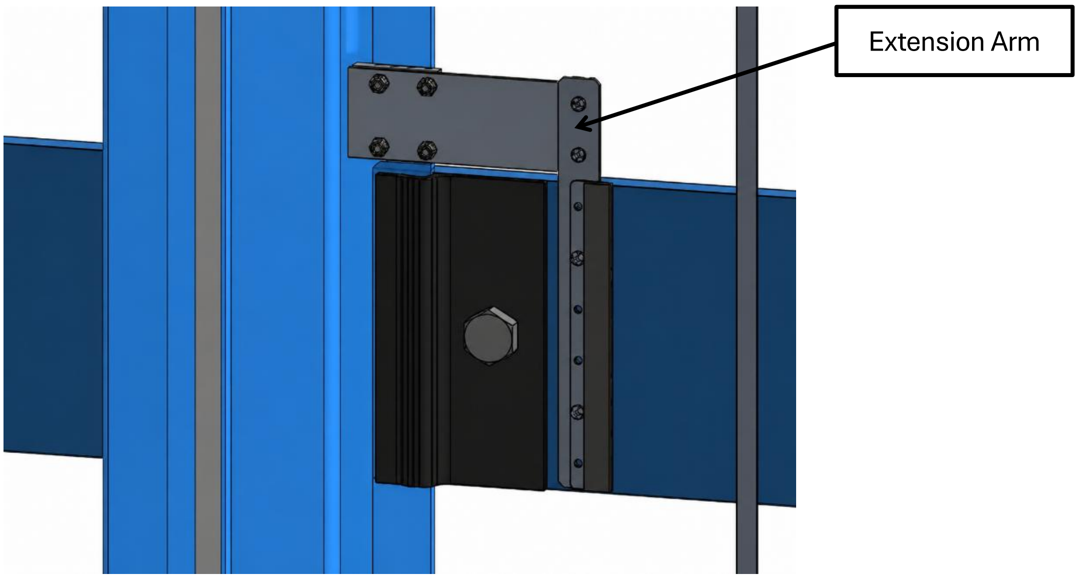

Figure 118: Door Zone Magnet Extension Arm, T-Rail

3.7 Short Floor Installations

In cases where the distance between the front and rear openings is 6” or less, a secondary (Short Floor) door zone blade must be installed. The Short Floor DZ includes a different blade than the one used with the standard DZ.

For short-floor installations, install an additional door zone assembly and a second proximity sensor as described below.

1. Install additional door zone assembly with the door zone magnet moved to the inner set of mount holes.

2. Install second proximity sensor spaced 1.25” apart from the standard sensor.

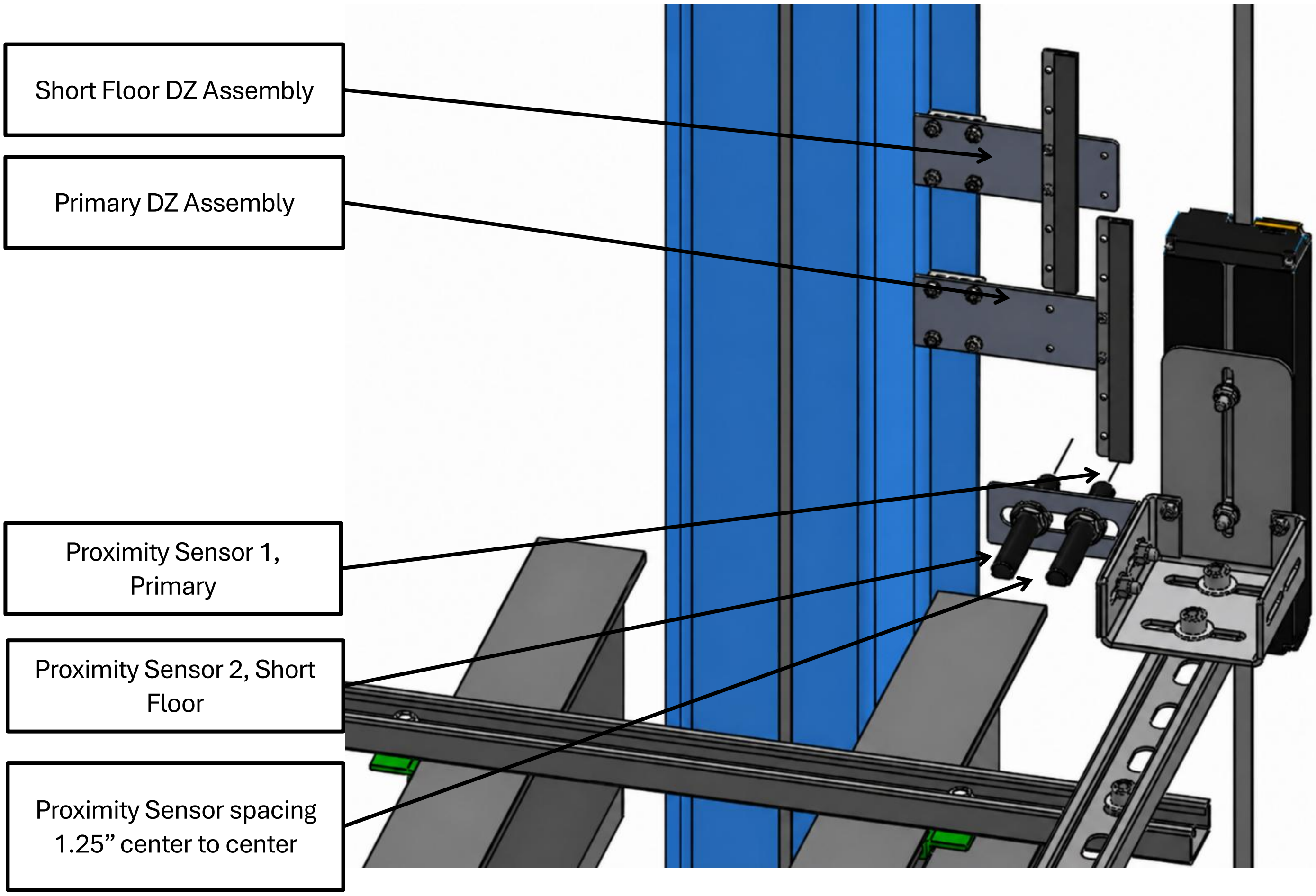

Figure 119: Short Floor Configuration, T-Rail

3.8 LEDs

There are three LEDs on the sensor (yellow, green, and red). Depending upon the input, each of the LEDs determine if the landing system is working properly or if an error has occurred.

Figure 120: LED Signals

Table 49: Meaning of LED Signals

LED	Color	Status	Meaning
RUN	**GREEN**	Flashing 5 Hz	Safe position data is transmitted via the interface
		Flashing 1 2/3 Hz	The sensor head operates in single-channel mode. Non-safe position information is transmitted via the interface.
		Static light on	The sensor has been blocked intentionally. Also see: LED ERR.
ERR	**RED**	OFF	No error
		Flashing 1 Hz	At least one error has been detected, but it is not classified as a severe error
		Flashing irregular frequency	The sensor had blocked itself due to a severe error. The unit should be replaced.
TAPE	**YELLOW**	ON	Magnetic tape cannot be detected or is damaged
		OFF	Magnetic tape is detected

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NEW BOARD INSTALLATION

1 Overview

If a board becomes mechanically or electrically faulty, it must be replaced. The configured parameters (e.g., timers, learned floors) can be retained after the board is replaced.

Before proceeding, verify that the replacement boards have the correct version programmed.

2 Retain Parameters for a Replaced MR Board

This procedure outlines the steps to transfer parameters from the CT board to a newly replaced MR board.

1. Turn **OFF** power to the controller.
2. Install the new MR (SRU) board and reconnect all terminal connectors. Keep group connections **OFF** until the synchronization process is complete.
3. Turn **ON** DIP switches **B5 and A7**.
4. Restore power to the controller.
5. Upon startup, the MR board will display "**Sync In Progress**", and the car will enter **Out of Service** mode.
6. When synchronization is complete, the MR board will display "**Sync Complete**".
7. Turn **OFF** power to the controller.
8. Turn **OFF** DIP switches **B5 and A7**.
9. Restore power. The car should now return to Normal operation.

3 Retain Parameters for a Replaced CT or COP Board

This procedure outlines how to transfer parameters from the MR board to a newly replaced CT or COP board.

1. Turn **OFF** power to the controller.
2. Disconnect all connectors and remove the CT or COP board.
3. Install the new CT or COP board and reconnect all terminals. Ensure that all DIP switches are set correctly.
4. Set the CT/COP selector switch to match the type of board being replaced. This switch is located in the upper-right corner of the board.
5. Remove lockout/tagout and restore power to the controller. The synchronization will begin automatically. Parameters are continuously compared across all three boards using checksum validation. "**Sync In Progress**" will not be displayed during this process.
6. Once synchronization is complete, the CT or COP board will resume normal operation with all parameters retained.

CONTROLLER MENU STRUCTURE

1 Menu Structures

The following figures display the menu options available on the C4 system.

The menu structure is designed so that selecting a specific option from a set of menus leads to a submenu with additional inputs or settings.

1.1 Status

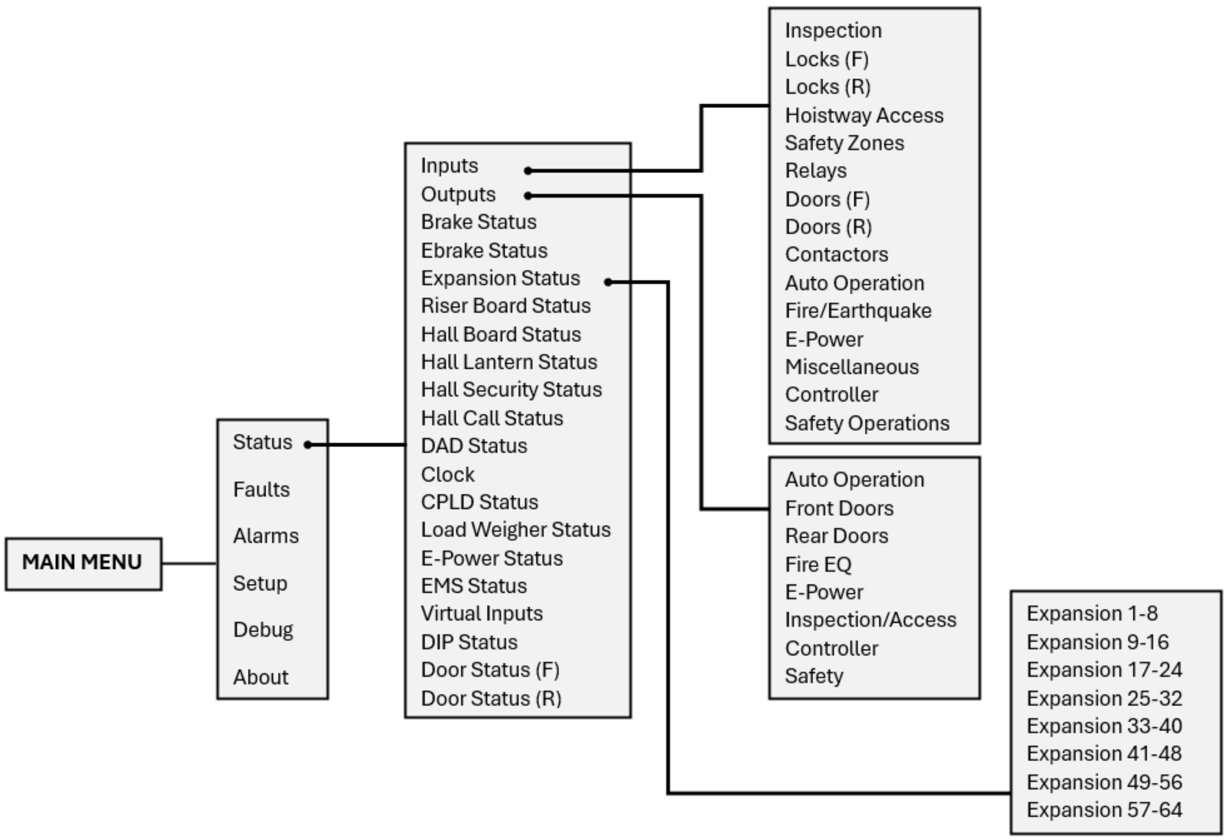

Figure 121: Status – Inputs, Outputs, and Expansion Status Menus

The table below lists the Status – Input, Outputs, and Expansion Status menu structures.

Table 50: Status – Inputs, Outputs, and Expansion Status Menu Structures

Menu	Description
	MAIN MENU
Status	Displays information about the current state of the controller
	Status
Inputs	Shows the status of all programmed inputs to the MR board
Outputs	Shows the status of all programmed outputs from the MR board
Brake Status	Shows the status of Brake board
EBrake Status	Shows the status of the secondary Brake board
Expansion Status	Shows communication status for a group of Expansion boards
Riser Board Status	Shows the status of the Riser board
Hall Board Status	Shows communication status for all Hall boards

Hall Lantern Status	Shows communication status for all Hall Lantern boards
Hall Security Status	Shows communication status for all Hall Security boards
Inputs	
Inspection	Shows the status of inspection related inputs
Locks (F) & (R)	Shows the status of all locks
Hoistway Access	Shows the status of all hoistway accesses
Safety Zones	Shows the status of safety inputs
Relays	Shows the status of all active relays
Doors (F) & (R)	Shows the status of all door operator signals
Contactors	Shows the status of all contactor monitoring signals
Auto Operation	Shows the status inputs under auto operation category
Fire/Earthquake	Shows the status of fire/earthquake inputs
E-Power	Shows the status E-Power inputs
Miscellaneous	Shows the status of various other inputs
Outputs	
Auto Operation	Shows the outputs that are in auto operation
Front Doors	Shows the status of front door outputs
Rear Doors	Shows the status of rear door outputs
Fire EQ	Shows the status of fire/earthquake outputs
E-Power	Shows the status of E-Power outputs
Inspection/Access	Shows the status of inspection outputs
Controller	Shows the status of control outputs
Safety	Shows the status of safety outputs
Expansion Status	
Expansion 1-8	Shows the communication status for Expansion group 1
Expansion 9-16	Shows the communication status for Expansion group 2
Expansion 17-24	Shows the communication status for Expansion group 3
Expansion 25-32	Shows the communication status for Expansion group 4
Expansion 33-40	Shows the communication status for Expansion group 5
Expansion 41-48	Shows the communication status for Expansion group 6
Expansion 49-56	Shows the communication status for Expansion group 7
Expansion 57-64	Shows the communication status for Expansion group 8

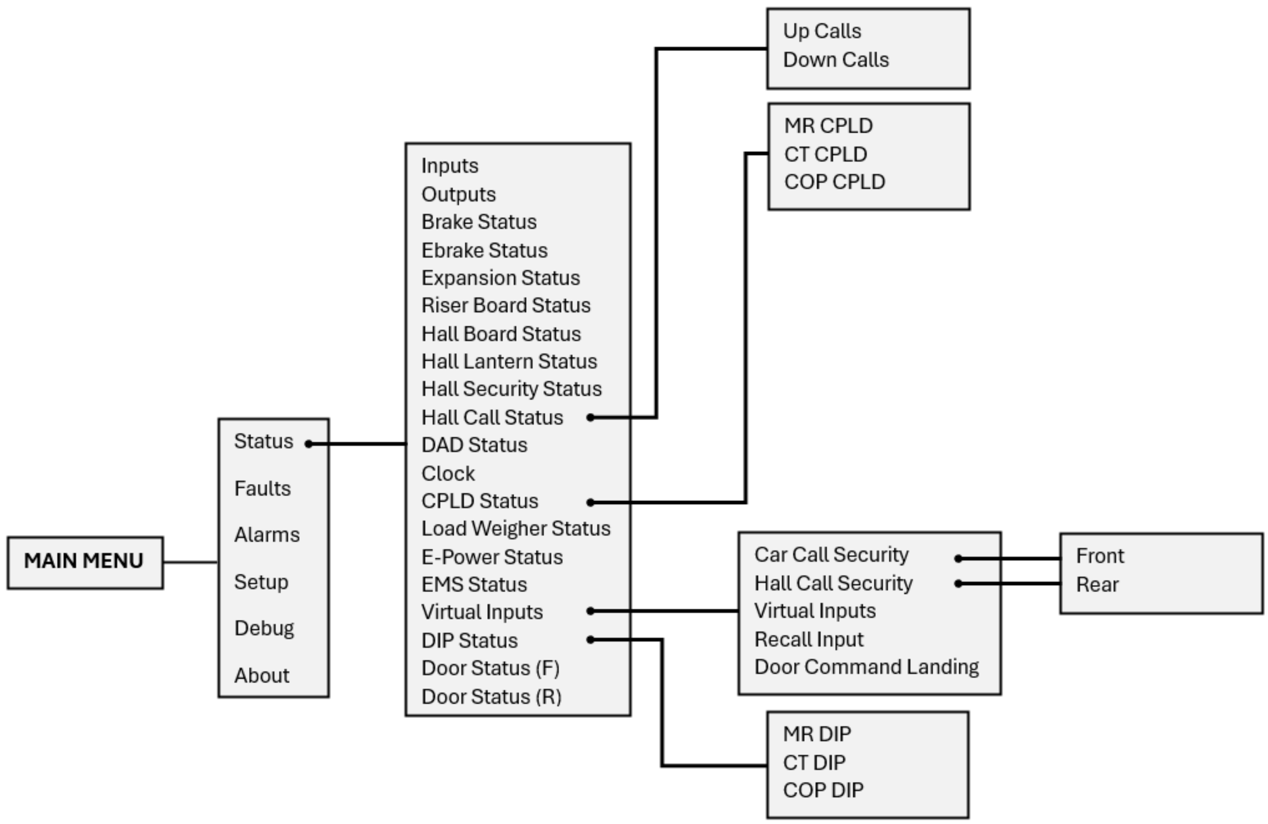

Figure 122: Status – Hall Call Status, CPLD Status, Virtual Inputs, and DIP Status Menus

The table below lists the Status – Hall Call Status, CPLD Status, Virtual Inputs, and DIP Status menu structures.

Table 51: Status – Hall Call Status, CPLD Status, Virtual Inputs, and DIP Status Menu Structures

Menu	Description
Status	
Hall Call Status	Shows the status of hall calls
DAD Status	Shows the status of DAD unit
Clock	View current clock setting on the system
CPLD Status	Shows the status of CPLDs
Load Weigher Status	Shows the status of the Load Weigher device
E-Power Status	Shows the status of emergency power
EMS Status	Shows the status of emergency medical service
Virtual Inputs	Shows the status of all inputs via remote access
DIP Status	Shows the status of the DIP switches
Door Status (F)	Shows the input status of a front door
Door Status (R)	Shows the input status of a rear door
Hall Call Status	
Up Calls	Shows list of latched up hall calls per car
Down Calls	Shows list of latched down hall calls per car
CPLD Status	
MR CPLD	Shows MR current CPLD version, activity, and faults
CT CPLD	Shows CT current CPLD version, activity, and faults
COP CPLD	Shows COP current CPLD version, activity, and faults

Virtual Inputs	
Car Call Security	Shows status of car call security map set remotely
Hall Call Security	Shows status of hall call security map set remotely
Virtual Inputs	Shows the status of variety of inputs set remotely by remote monitoring system
Recall Input	Shows the recall floor and door that opens when remote recall to floor input is asserted
Door Command Landing	Shows the status of a door to a designated landing
DIP STATUS	
MR DIP	Shows the status of MR DIP switches that are On
CT DIP	Shows the status of CT DIP switches that are On
COP DIP	Shows the status of COP DIP switches that are On

1.2 Faults and Alarms

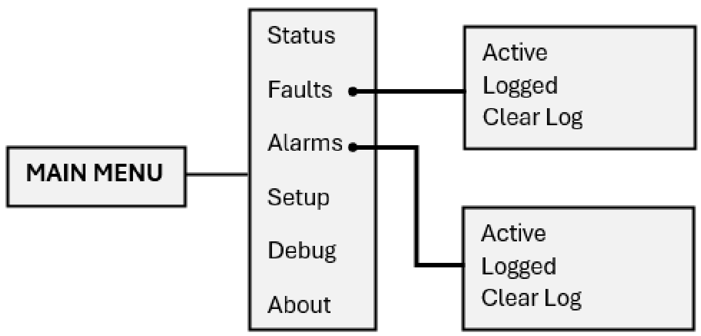

Figure 123: Faults and Alarms Menu

The table below lists the Faults and Alarms menu structures.

Table 52: Faults and Alarms Menu Structures

Menu	Description
MAIN MENU	
Faults	Allows the user to access Fault data
Alarms	Allows the user to access Alarm data
Faults	
Active	Displays current active faults that are preventing the car from running
Logged	Displays the 32 latest faults stored in the systems non-volatile memory with the most recent faults at the top
Clear Log	Clears the fault log history
Alarms	
Active	Displays current active alarms
Logged	Displays the 32 latest faults stored in the systems non-volatile memory with the most recent faults at the top
Clear Log	Clears the alarm log history

1.3 Setup

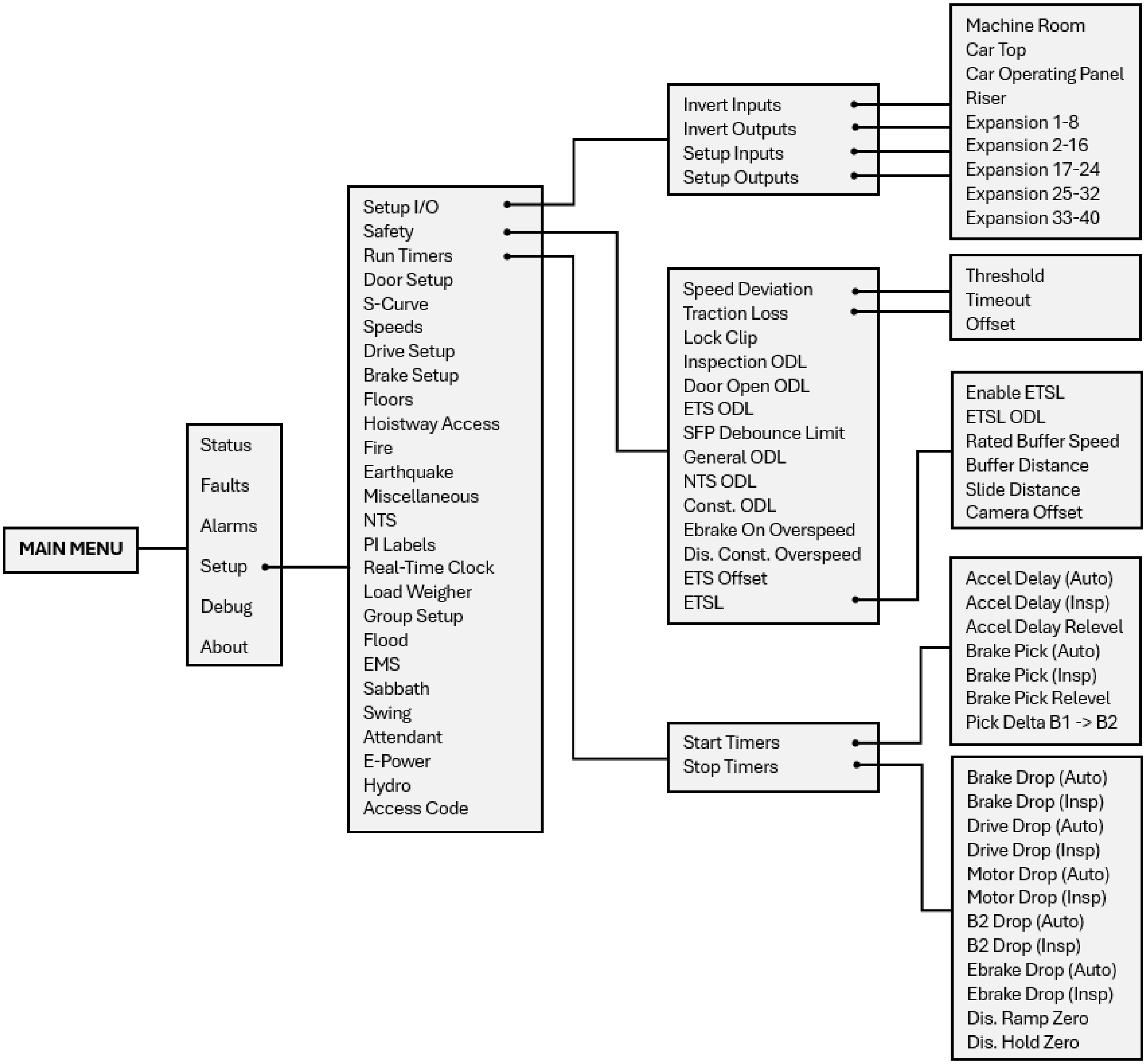

Figure 124: Setup – Setup I/O, Safety, and Run Timers Menus

The table below lists the Setup – Setup I/O, Safety, and Run Timers menu structures.

Table 53: Setup – Setup I/O, Safety, and Run Timers Menu Structures

Menu	Description
	MAIN MENU
Setup	Allows the user to setup the elevator configuration
	Setup
Setup I/O	Configure inputs and outputs
Safety	Allows the user to adjust safety related functions

Menu	Description
Run Timers	Adjust start sequence and stop sequence timers
Setup I/O	
Invert Inputs	Invert selected inputs
Invert Outputs	Invert selected outputs
Setup Inputs	Assign inputs
Setup Outputs	Assign outputs
Invert Inputs	
Machine Room	Change state of input to the MR board
Car Top	Change state of input to the CT board
Car Operating Panel	Change state of input to the COP board
Riser	Change state of input to the Riser board
Expansion 1-8	Change state of input to the Expansion 1-8 boards
Expansion 9-16	Change state of input to the Expansion 9-16 boards
Expansion 17-24	Change state of input to the Expansion 17-24 boards
Expansion 25-32	Change state of input to the Expansion 25-32 boards
Expansion 33-40	Change state of input to the Expansion 33-40 boards
Invert Outputs	
Machine Room	Change state of output to the MR board
Car Top	Change state of output to the CT board
Car Operating Panel	Change state of output to the COP board
Riser	Change state of output to the Riser board
Expansion 1-8	Change state of output to the Expansion 1-8 boards
Expansion 9-16	Change state of output to the Expansion 9-16 boards
Expansion 17-24	Change state of output to the Expansion 17-24 boards
Expansion 25-32	Change state of output to the Expansion 25-32 boards
Expansion 33-40	Change state of output to the Expansion 33-40 boards
Setup Inputs	
Machine Room	Assign inputs to the MR board
Car Top	Assign inputs to the CT board
Car Operating Panel	Assign inputs to the COP board
Riser	Assign inputs to the Riser board
Expansion 1-8	Assign inputs to the Expansion 1-8 boards
Expansion 9-16	Assign inputs to the Expansion 9-16 boards
Expansion 17-24	Assign inputs to the Expansion 17-24 boards
Expansion 25-32	Assign inputs to the Expansion 25-32 boards
Expansion 33-40	Assign inputs to the Expansion 33-40 boards
Setup Outputs	
Machine Room	Assign outputs from the MR board
Car Top	Assign outputs from the CT board
Car Operating Panel	Assign outputs from the COP board
Riser	Assign outputs from the Riser board
Expansion 1-8	Assign outputs from the Expansion 1-8 boards
Expansion 9-16	Assign outputs from the Expansion 9-16 boards
Expansion 17-24	Assign outputs from the Expansion 17-24 boards
Expansion 25-32	Assign outputs from the Expansion 25-32 boards
Expansion 33-40	Assign outputs from the Expansion 33-40 boards
Safety	
Speed Deviation	Adjust speed deviation options

Menu	Description
Traction Loss	Adjust traction loss options
Lock Clip	The amount of time the controller disregards an open hall lock. This prevents intermittent interlock faults and for safety reasons, this timer should not exceed five seconds
Inspection ODL	Inspection overspeed debounce limit
Door Open ODL	Door open overspeed debounce limit
ETS ODL	ETS overspeed debounce limit
SFP Debounce Limit	Relay feedback debounce limit
General ODL	General overspeed debounce limit
NTS ODL	NTS overspeed debounce limit
Const. ODL	Construction overspeed debounce limit
EBrake On Overspeed	Sets the emergency brake on overspeed faults
Dis. Const. Overspeed	Disables construction overspeed setting
ETS Offset	Shifts learned ETS position by user defined offset from NTS points
ETSL	Option for reduced stroke buffer
Speed Deviation	
Threshold	The speed which speed deviation detection is activated
Timer	How long speed deviation is detected before triggering fault
Offset	Percent change between feedback and command speed for triggering the speed deviation fault
Traction Loss	
Threshold	The speed which traction loss detection is activated
Timer	Amount of time for traction loss to be present before a fault is issued
Offset	Percent offset between drive and position system speed feedback
Run Timers	
Start Timers	Timers used for motion start sequence
Stop Timers	Timers used for motion stop sequence
ETSL	
Enable ETSL	Enable/Disables ETSL operation
ETSL ODL	ETSL overspeed debounce limit. Sets of sensitivity of the ETSL device. This setting is only increased to avoid nuisance tripping.
Rated Buffer Speed	Rated speed of the buffer installed
Buffer Distance	Distance from the bottom of the cab to the buffer
Slide Distance	Distance determined by the ETSL slide distance test
Camera Offset	Camera offset between main camera and ETSL camera. This is automatically calculated during learn operation.
Enable ETSL	Enable/Disables ETSL operation
ETSL ODL	ETSL overspeed debounce limit. Sets of sensitivity of the ETSL device. This setting is only increased to avoid nuisance tripping.
Rated Buffer Speed	Rated speed of the buffer installed
Buffer Distance	Distance from the bottom of the cab to the buffer
Slide Distance	Distance determined by the ETSL slide distance test
Camera Offset	Camera offset between main camera and ETSL camera. This is automatically calculated during learn operation.
Start Timers	
Accel Delay (Auto)	Sets a delay before moving into acceleration stage of pattern on automatic operation. This holds the car at zero speed (or at min accel speed if set).

Menu	Description
Accel Delay (Insp)	Sets a delay before moving into acceleration stage of pattern on inspection operation. This holds the car at zero speed (or at min accel speed if set).
Brake Pick (Auto)	Delays the lifting of the main brake on automatic operation
Brake Pick (Insp)	Delays the lifting of the main brake on inspection operation
Pick Delta B1->B2	Time between picking the secondary and primary brakes
Stop Timers	
Brake Drop (Auto)	Sets delay between reaching zero speed and dropping the primary brake on automatic operation
Brake Drop (Insp)	Sets delay between reaching zero speed and dropping the primary brake on inspection operation
Drive Drop (Auto)	Sets delay between checking BPS and dropping drive control on automatic operation
Drive Drop (Insp)	Sets delay between checking BPS and dropping drive control on inspection operation
Motor Drop (Auto)	Sets delay between dropping drive control and dropping the M contactor on automatic operation
Motor Drop (Insp)	Sets delay between dropping drive control and dropping the M contactor on inspection operation
B2 Drop (Auto)	Sets delay between dropping the secondary brake and dropping the B2 contactor while in automatic operation
B2 Drop (Insp)	Sets delay between dropping the secondary brake and dropping the B2 contactor on inspection operation
EBrake Drop (Auto)	Sets delay between reaching zero speed and dropping secondary brake on automatic operation
EBrake Drop (Insp)	Sets delay between reaching zero speed and dropping the secondary brake on inspection operation
DIS Ramp Zero	When ON, disables ramping down command speed from leveling speed to 1 FPM prior to dropping a run. This option must be off for KEB drives.
DIS Hold Zero	When ON, disables stop sequence check for encoder speed to read below 1 FPM prior to dropping the brake. Turning this option off may increase floor level accuracy.

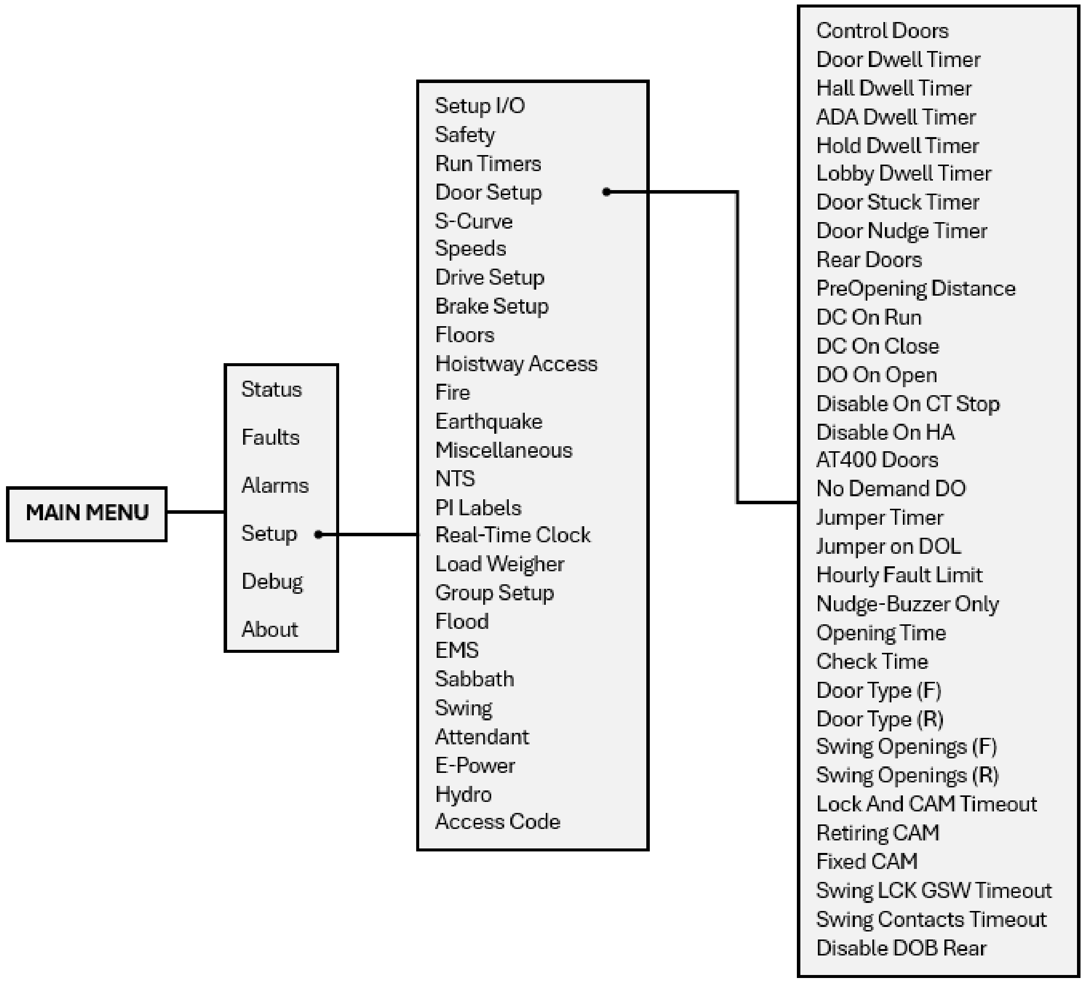

Figure 125: Setup - Door Setup Menu

The table below lists the Setup – Door Setup menu structure.

Table 54: Setup – Door Setup Menu Structure

Menu	Description
Setup	
Door Setup	Configure door parameters
Door Setup	
Control Doors	Allows for manually opening and closing the doors through the UI
Door Dwell Timer	Time car doors remains open when answer car calls
Hall Dwell Timer	Time car doors remain open when answering hall calls
ADA Dwell Timer	Time car doors remain open when answering ADA calls
Hold Dwell Timer (1 sec)	Time car doors remain open when responding to door hold button requests
Lobby Dwell Timer	Time car doors remain open when answering lobby calls
Door Stuck Timer (1 sec)	Time limit for a door to complete an opening or closing request before faulting
Door Nudge Timer (1 sec)	Time doors spend trying to close before transitioning to nudging which ignores photoeye. If set to zero, nudging is disabled.
Rear Doors	Enable or disable rear doors
PreOpening Distance (.019”)	The distance from a floor to start preopening doors. If zero, preopening is disabled.

Menu	Description
DC On Run	Activates door close output while in motion
DC On Close	Activates door close output while the doors are in closed state
DO On Open	Activates door open output while the doors are in open state
Disable On CT Stop	When set ON, door outputs are suppressed when the CT Stop switch is active
Disable On HA	When set ON, door outputs are suppressed when on hoistway access inspection
AT400 Doors	When set to On, the option for AT400 door operator is enabled (if applicable).
No Demand DO	Doors remain open while the car is idle
Jumper Timer (100 ms)	Timer for jumper on Gate switch (F98/F107) and jumper on lock (F99/F108) faults. This value is added to a minimum timeout of 1.6 seconds.
Jumpers On DOL	When set ON, detects jumper on open DOL instead of GSW
Hourly Fault Limit	The number of door faults allowed within 1-hour window before the car goes out of service. If the car goes out of service, it will remain out of service until the hour window elapses. If set to zero, this feature is disabled.
Nudge – Buzzer Only	When set ON during nudging, the NDG output is suppressed and only the buzzer sounds.
Opening Time (100ms)	The estimated time it takes the doors to go from fully closed to fully open. This value is learned after performing a run with preflight disabled (01-0064) and the learn opening time bit is ON (01-0165). This can help improve dwell time delays when preflight is on. If set to zero, this option is disabled.
Check Time (100ms)	Sets the time the car doors must be seen as safe before the car is allowed to start a run on automatic operation. Time is set in 100 ms counts. If zero, defaults to 300 ms.
Door Type (F)	Sets front door type
Door Type (R)	Sets rear door type
Swing Opening (F)	Enable or disable swing operation for each front door landing
Swing Opening (R)	Enable or disable swing operation for each rear door landing
Lock And CAM Timeout	Sets the timeout which accounts for the delay between CAM activation and locks being made for manual doors. The units are in 100 ms counts. If set to zero, value defaults to 4 seconds.
Retiring CAM	When set to ON, the CAM output controls hall interlocks. Otherwise, interlocks are controlled by the door operator.
Fixed CAM	When set to ON, the door has a fixed hall CAM. The car is allowed to start a run without hall locks (hall closed contacts still required). The car is allowed to move up to 2 feet without locks before faulting.
Swing LCK GSW Timeout	Sets the timeout between GSW and locks. If value is zero, timeout is set to 500 ms. The units are in seconds.
Swing Contacts Timeout	Sets the timeout between CAM being energized and closed contacts being made. If value is zero, timeout is set to 500 ms. The units are in seconds.
Disable DOB Rear	When set to ON, the rear door on bottom floor is disabled

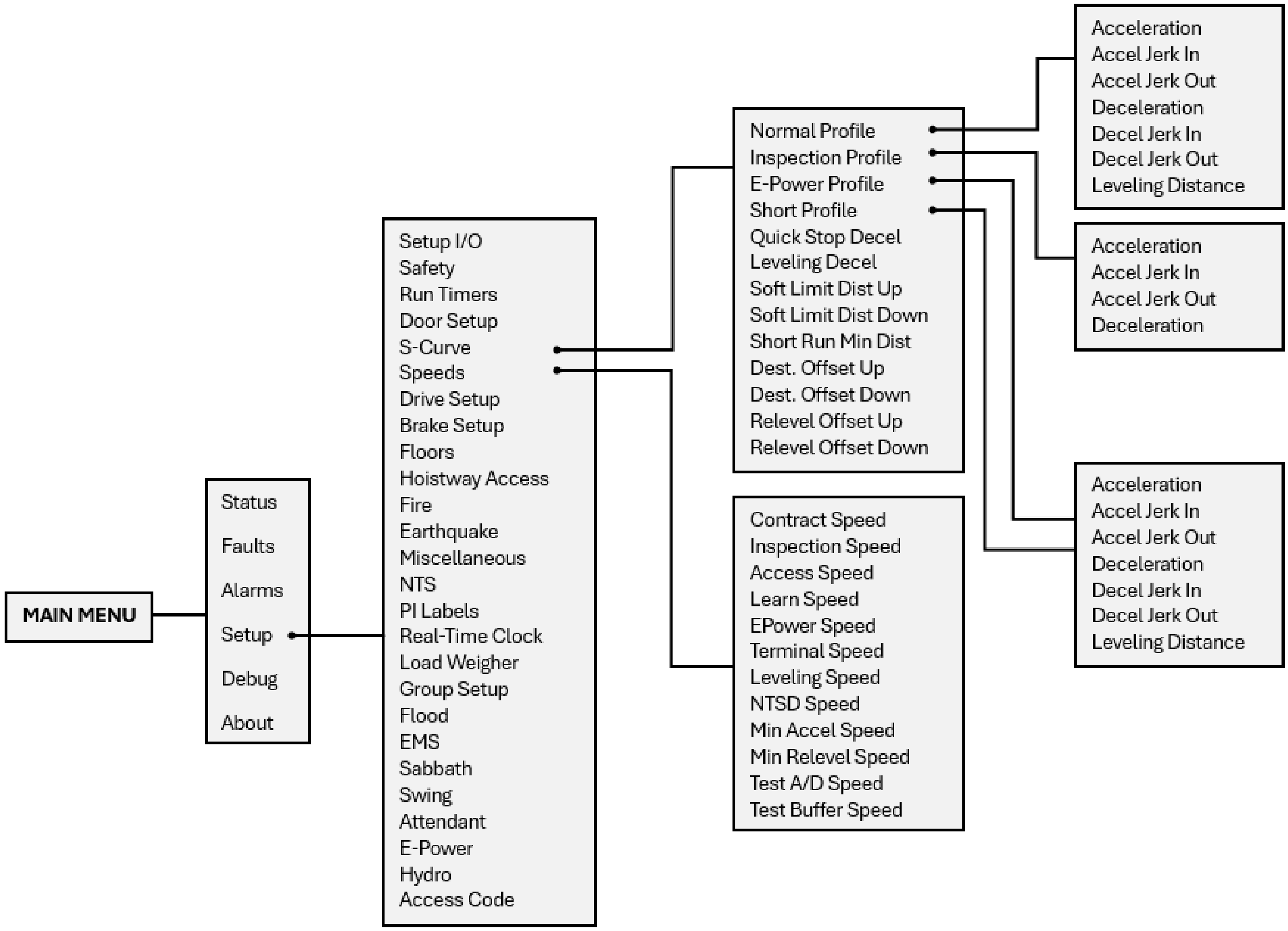

Figure 126: Setup – S-Curve and Speeds Menus

The table below lists the Setup – S-Curve and Speeds menu structures.

Table 55: Setup – S-Curve and Speeds Menu Structures

Menu	Description
Setup	
S-Curve	Configure Digital S-curve Technology ™ (U.S. Patent Pending) parameters
Speeds	Configure speed parameters
S-Curve	
Normal Profile	Set pattern parameters used on normal profile runs. The normal profile is selected in all automatic operation runs longer than minimum short profile distance, with exception of emergency power.
Inspection Profile	Set pattern parameters used on inspection profile runs
E-Power Profile	Set pattern parameters used on E-Power profile runs
Short Profile	Set pattern parameters used on short profile runs
Quick Stop Decel	The rate of deceleration used during an NTS trip. During an NTS trip, the drive will ignore the controller's commanded speed, and both will ramp down their speeds independently.
Leveling Decel	Sets the rate of decel from leveling speed

Menu	Description
Soft Limit Dist. Up (1 ft)	Distance away from the top terminal floor that car switches to terminal speed during manual operation
Soft Limit Dist. Dn (1 ft)	Distance away from the bottom terminal floor that car switches to terminal speed during manual operation
Short Run Min. Dist. (1 ft)	Distance below which the short motion profile is used instead of the normal motion profile
Dest. Offset Up	Distance the car slows down prior to the landing in the up direction
Dest. Offset Down	Distance the car slows down prior to the landing in the down direction
Relevel Offset Up	Maximum distance the car is from landing moving in the up direction
Relevel Offset Down	Maximum distance the car is from landing moving in the down direction
Normal Profile	
Acceleration	Sets the max acceleration rate used on normal profile runs
Acceleration Jerk In	Sets starting rate of acceleration change on normal profile runs
Acceleration Jerk Out	Sets the rate of acceleration change when approaching max speed on normal profile runs
Deceleration	Sets the max deceleration rate used on normal profile runs
Decel Jerk In	Sets the starting rate of deceleration change on normal profile runs
Decel Jerk Out	Sets the rate of deceleration change when approaching a floor on normal profile runs
Leveling Distance	Sets the distance from a floor at which the car transitions to leveling speed on normal profile runs
Inspection Profile	
Acceleration	Sets the max acceleration rate used on inspection profile runs
Acceleration Jerk In	Sets starting rate of acceleration change on inspection profile runs
Acceleration Jerk Out	Sets the rate of acceleration change when approaching max speed on inspection profile runs
Deceleration	Sets the max deceleration rate used on inspection profile runs
E-Power Profile	
Acceleration	Sets the max acceleration rate used on emergency power profile runs
Acceleration Jerk In	Sets starting rate of acceleration change on emergency power profile runs
Acceleration Jerk Out	Sets the rate of acceleration change when approaching max speed on emergency power profile runs
Deceleration	Sets the max deceleration rate used on emergency power profile runs
Decel Jerk In	Sets the starting rate of deceleration change on emergency power profile runs
Decel Jerk Out	Sets the rate of deceleration change when approaching a floor on emergency power profile runs
Leveling Distance	Sets the distance from a floor at which the car transitions to leveling speed on emergency power profile runs
Short Profile	
Acceleration	Sets the max acceleration rate used on short profile runs
Acceleration Jerk In	Sets starting rate of acceleration change on short profile runs
Acceleration Jerk Out	Sets the rate of acceleration change when approaching max speed on short profile runs
Deceleration	Sets the max deceleration rate used on short profile runs
Decel Jerk In	Sets the starting rate of deceleration change on short profile runs
Decel Jerk Out	Sets the rate of deceleration change when approaching a floor on short profile runs
Leveling Distance	Sets the distance from a floor at which the car transitions to leveling speed on short profile runs

Menu	Description
	Speeds
Contract Speed	Contract Speed
Inspection Speed	Inspection Speed
Access Speed	Access Speed
Learn Speed	Learn Speed
EPower Speed	EPower Speed
Terminal Speed	Terminal Speed
Leveling Speed	Leveling Speed
NTSD Speed	NTSD Speed
Min Accel Speed	Min Accel Speed
Min Relevel Speed	Min Relevel Speed
Test A/D Speed	Test A/D Speed
Test Buffer Speed	Test Buffer Speed

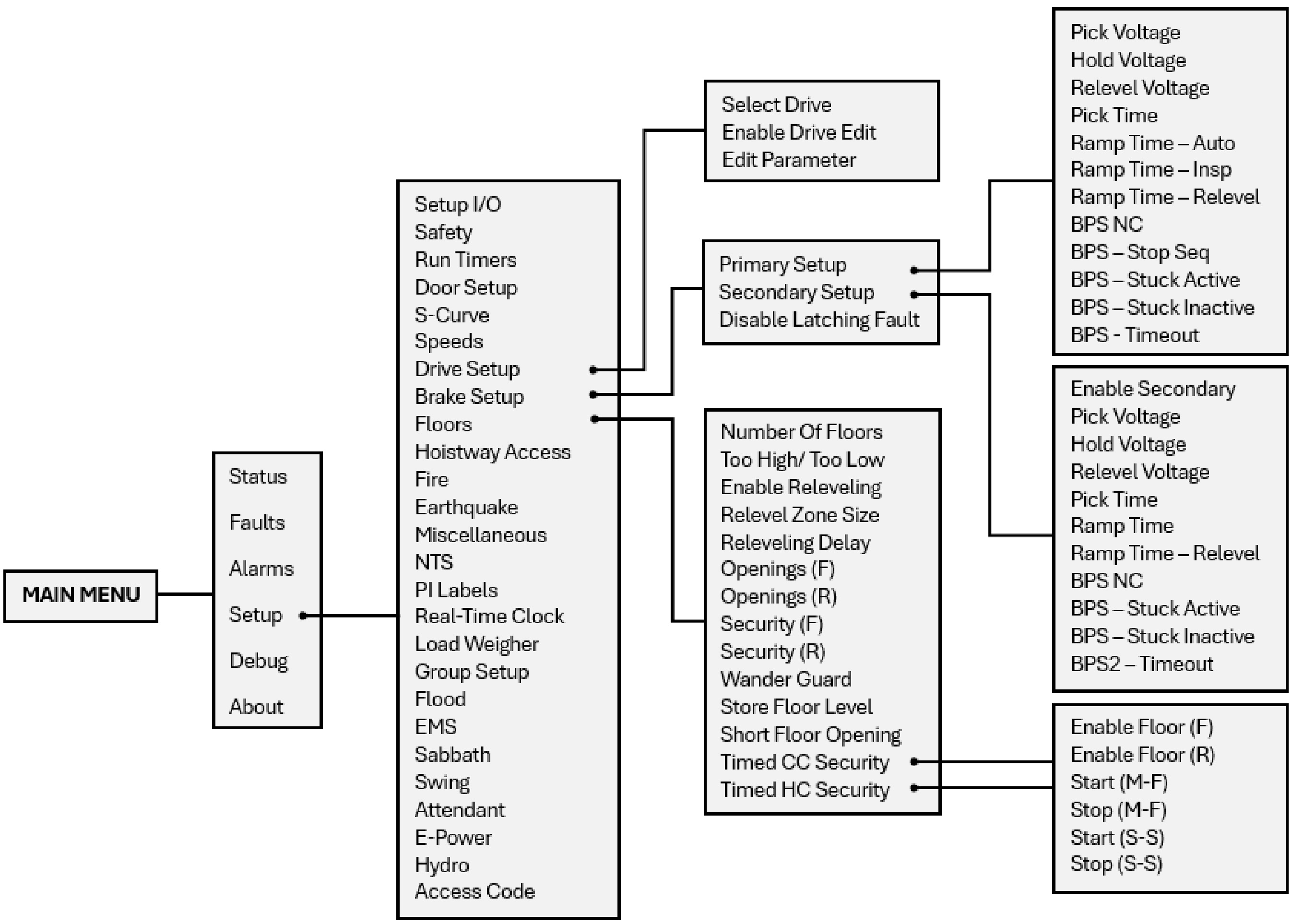

Figure 127: Setup – Drive Setup, Brake Setup, and Floors Menus

The table below lists the Setup – Drive Setup, Brake Setup, and Floors menu structures.

Table 56: Setup – Drive Setup, Brake Setup, and Floors Menu Structures

Menu	Description
Setup	
Drive Setup	Setup drive related parameters
Brake Setup	Setup brake related parameters
Floors	Setup floor related parameters
Drive Setup	
Select Drive	Allows for selecting the type of drive used
Enable Drive Edit	Enables the remote editing of the drive parameters
Edit Parameters	Allows for editing the parameters for the drive according to the configuration information
Brake Setup	
Primary Setup	Configuration setup for the primary brake system
Secondary Setup	Configuration setup for the secondary brake system, if applicable
Disable Latching Fault	When set ON, primary and secondary brake's MOSFET faults are not latching. When set to OFF, the faults require a reset of the MR board (F199 and F210).
Primary Setup	
Pick Voltage	Set the pick voltage of the primary brake
Hold Voltage	Set the hold voltage of the primary brake
Relevel Voltage	Set the releveling voltage of the primary brake. This voltage should be set to where the brake barely lifts during releveling to allow the sheave to turn under the brake.
Pick Time	Amount of time pick voltage is maintained before switching to hold voltage
Ramp Time – Auto	Amount of time the brake scales to full pick voltage on automatic operation
Ramp Time – Insp	Amount of time the brake scales to full pick voltage on inspection operation
Ramp Time – Relevel	Amount of time the brake scales to full releveling voltage
BPS – NC	Brake Pick switch is normally closed
BPS – Stuck Seq	Disables primary BPS check during the motion stop sequence
BPS – Stuck Active	Disables primary BPS stuck picked check
BPS – Stuck Inactive	Disables primary BPS stuck dropped check
BPS – Timeout (1 sec)	Sets the timeout for primary BPS stuck active and stuck inactive faults (F189/F190). Minimum of three seconds.
Secondary Setup	
Enable Secondary	Enables secondary brake
Pick Voltage	Set secondary brake pick voltage
Hold Voltage	Set secondary brake hold voltage
Relevel Voltage	Set the releveling voltage of the secondary brake. This voltage should be set to where the brake barely lifts during releveling to allow the sheave to turn under the brake.
Pick Time	Amount of time pick voltage is maintained before switching to hold voltage
Ramp Time	Amount of time the brake scales to full pick voltage on automatic operation
Ramp Time – Relevel	Amount of time the brake scales to full releveling voltage
BPS – NC	Brake Pick switch is normally closed
BPS – Stuck Active	Disables secondary BPS stuck picked check
BPS – Stuck Inactive	Disables secondary BPS stuck dropped check
BPS – Timeout	Sets the timeout for secondary BPS stuck active and stuck inactive faults (F189/F190) to be asserted. Minimum of three seconds.
Floors	
Number Of Floors	Allows for setting the number of floors within the building

Menu	Description
Too High/ Too Low	Used to adjust the learned position of the floor when setting floor levels
Enable Releveling	Enables releveling operation
Relevel Zone Size (.02")	Sets the size of the releveling zone (dead zone)
Relevel Delay	The time the controller waits before engaging a Relevel command while in a door zone and outside the dead zone
Openings (F)	Allows for setting the floors the front door opens
Openings (R)	Allows for setting the floors the rear door opens
Security (F)	Allows for setting the security parameters for front door
Security (R)	Allows for setting the security parameters for rear door
Wander Guard	Allows for setting the wander guard feature for any floor
Store Floor Level	Sets the position of the short floor level
Short Floor Opening	Sets overlapping door zones (short floors)
Timed CC Security	Allows for setting car call security for specific times
Timed HC Security	Allows for setting hall call security for specific times
Timed CC Security	
Enable Floor (F)	Allows for enabling timed security for front openings
Enable Floor (R)	Allows for enabling timed security for rear openings
Start (M-F)	Sets the time that floor access is denied during M-F
Stop (M-F)	Sets the time that floor access is resumed on M-F
Start (S-S)	Sets the time that floor access is denied during S-S
Stop (S-S)	Sets the time that floor access is resumed on S-S
Timed HC Security	
Enable Floor (F)	Allows for enabling timed security for front openings
Enable Floor (R)	Allows for enabling timed security for rear openings
Start (M-F)	Sets the time that floor access is denied during M-F
Stop (M-F)	Sets the time that floor access is resumed on M-F
Start (S-S)	Sets the time that floor access is denied during S-S
Stop (S-S)	Sets the time that floor access is resumed on S-S

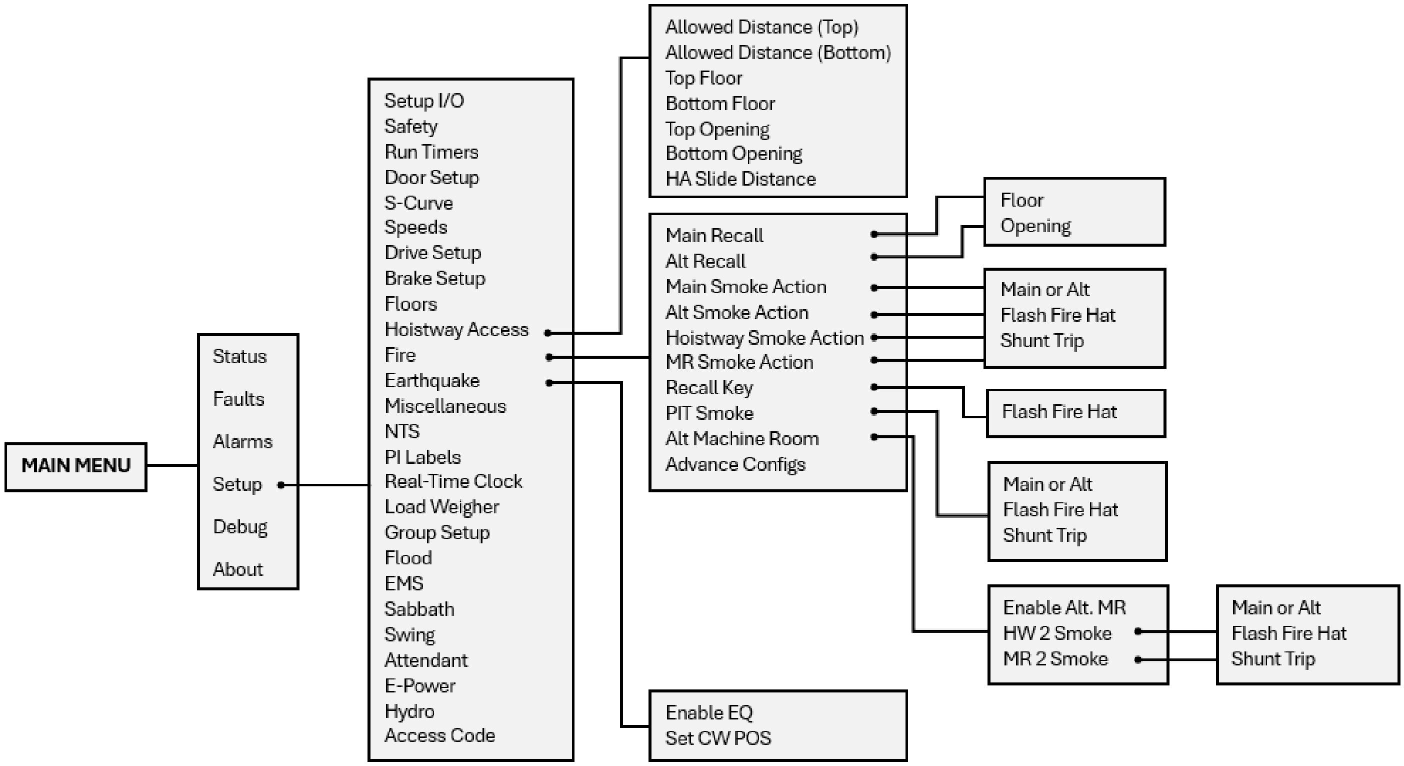

Figure 128: Setup – Hoistway Access, Fire, and Earthquake Menus

The table below lists the Setup – Hoistway Access, Fire, and Earthquake menu structures.

Table 57: Setup – Hoistway Access, Fire, and Earthquake Menu Structures

Menu	Description
	Setup
Hoistway Access	Hoistway access setup menu
Fire	Fire operation setup menu
Earthquake	Earthquake operation setup menu
	Hoistway Access
Allowed Distance (Top) (1 ft)	Sets the distance below the top hoistway access floor that the car is allowed to move while in top hoistway access
Allowed Distance (Bottom) (1 ft)	Sets the distance above the bottom hoistway access floor that the car is allowed to move while in bottom hoistway access.
Top Floor	Sets the top hoistway access floor. This value is zero based, so the bottom most floor is zero. This value's upper bound is the configured number of floors.
Bottom Floor	Sets the bottom hoistway access floor. This value is zero based, so the bottom most floor is zero.
Top Opening	When nonzero, configures the top hoistway access to use the rear opening
Bottom Opening	When nonzero, configures the bottom hoistway access to use the rear opening
HA Slide Distance	Sets the distance the car is from top/bottom door zone

Menu	Description
	Fire
Main Recall	Sets the main recall floor
Alt Recall	Sets the designated alternate recall floor
Main Smoke Action	Main smoke options
Alt Smoke Action	Alternate smoke options
Hoistway Smoke Action	Hoistway smoke options
MR Smoke Action	Machine room smoke options
Recall Key	Key to recall to service floor
PIT Smoke	Pit smoke options
Alt Machine Room	Secondary machine room smoke
Advance Configs	Additional fire features
	Main Recall
Floor	Sets the main fire recall floor. This value is zero based, so the bottom most floor is zero
Opening	Sets the main recall opening as front or rear
	Alt Recall
Floor	Sets the alternate fire recall floor This value is zero based, so the bottom most floor is zero
Opening	Sets the main recall opening as front or rear
	Main Smoke
Main or Alt	Sets whether the elevator will recall to the main or alternate landing when the main smoke is active
Flash Fire Hat	Flash fire hat when main smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by main smoke input
	Alt Smoke
Main or Alt	Sets whether the elevator will recall to the main or alternate landing when the alternate smoke is active
Flash Fire Hat	Flash fire hat when alternate smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by alternate smoke input
	Hoistway Smoke
Main or Alt	Sets whether the elevator will recall to the main or alternate landing when the hoistway smoke is active
Flash Fire Hat	Flash fire hat when hoistway smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by hoistway smoke input
	MR Smoke
Main or Alt	Sets whether the elevator will recall to the main or alternate landing when the machine room smoke is active
Flash Fire Hat	Flash fire hat when machine room smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by machine room smoke input
	Recall Key
Flash Fire Hat	Flash fire hat when recall key is turned to the ON position
	PIT Smoke
Main or Alt	Sets whether the elevator recalls to the main or alternate landing when the pit smoke is active

Menu	Description
Flash Fire Hat	Flash fire hat when pit smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by pit smoke input
Alt Machine Room	
Enable Alt. MR	Enables alternate machine room fire operation setup menu
HW 2 Smoke	Alternate hoistway smoke options
MR 2 Smoke	Alternate machine room smoke options
HW 2 Smoke	
Main or Alt	Sets whether the elevator recalls to the main or alternate landing when alternate machine room smoke is active
Flash Fire Hat	Flash fire hat when alternate machine room smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by alternate machine room smoke input
MR 2 Smoke	
Main or Alt	Sets whether the elevator recalls to the main or alternate landing when the alternate machine room smoke is active
Flash Fire Hat	Flash fire hat when alternate machine room smoke is active
Shunt Trip	Activates fire shunt output during Phase 1 recall if triggered by alternate machine room smoke input
Earthquake	
Enable EQ	Enables earthquake options
Set CW POS	Set the CW midpoint position

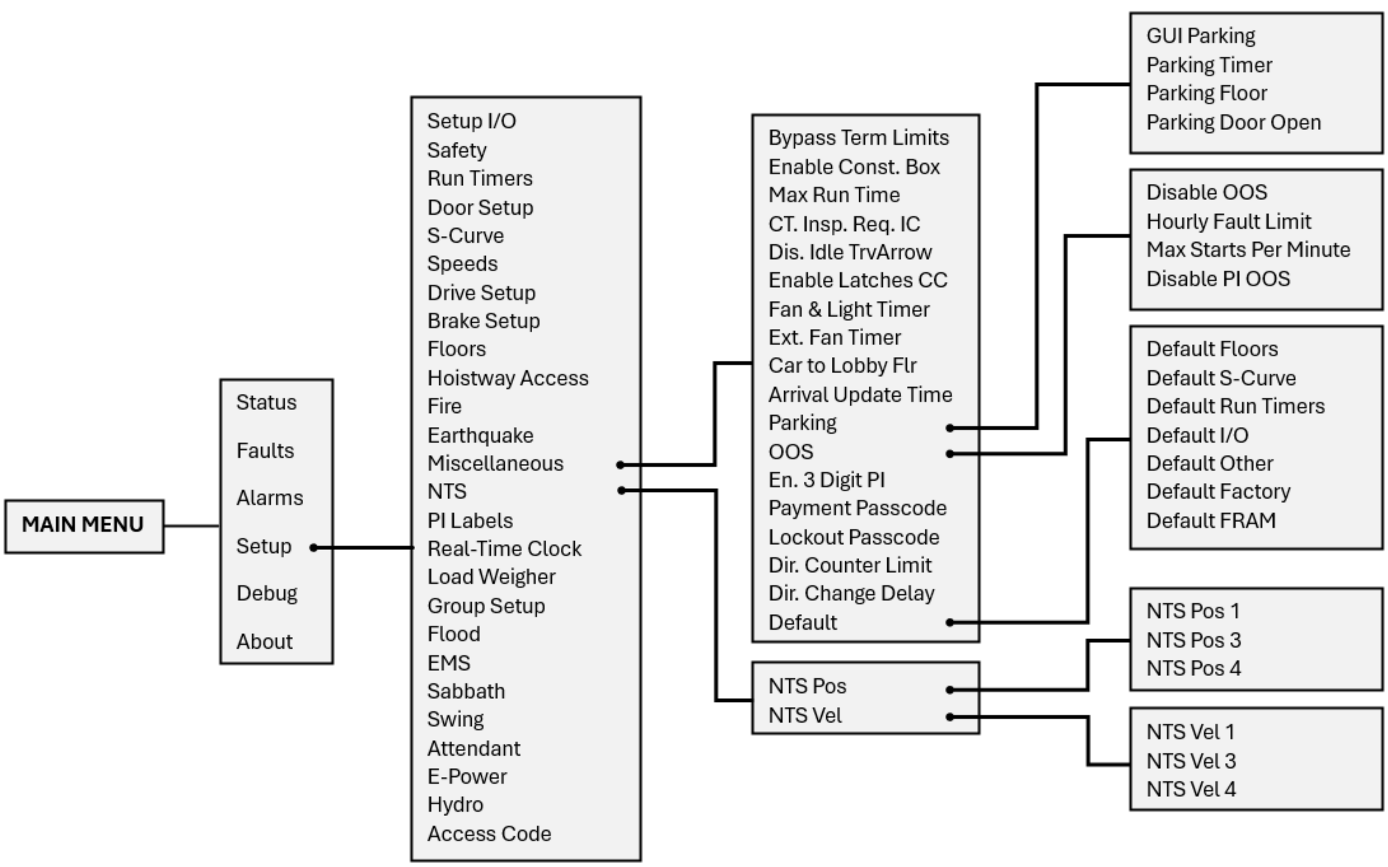

Figure 129: Setup – Miscellaneous and NTS Menu

The table below lists the Setup – Miscellaneous and NTS menu structures.

Table 58: Setup – Miscellaneous and NTS Menu Structures

Menu	Description
Setup	
Miscellaneous	Miscellaneous menu options
NTS	Normal Terminal Slowdown menu option
Miscellaneous	
ByPass Term Limit	Bypasses terminal limit faults. This option is automatically turned off when in automatic operation.
Enable Const. Box	Enable/Disable Construction Box. When enabled, onboard inspection buttons are ignored on construction operation and onboard inputs are used.
Max Run Time	Sets the max run time allowed in automatic operation before the car faults (F116). If set to zero, this fault is suppressed.
CT. Insp. Req. IC	Requires In-Car inspection to enable CT inspection
Dis. IdleTrvArrow	When set ON, CE travel arrows reflect the motion direction of the car. When set OFF, the arrows reflect the motion direction of the car and the arrival direction after a run.
Enable Latches CC	When set ON, car call security enable input latches a car call
Fan & Light Timer	Sets the time the car may be idle before its fan and light output is turned off. If a longer timer is needed, the extended fan and light timer should be used instead. Units are in seconds.
Ext. Fan Timer	Extended fan and light timer
Car to Lobby Flr	Sets the floor the car moves to when the car to lobby input is activated. This value is zero based.
Arrival Update Time	Sets the time before arriving at a floor to update arrival lantern outputs. If set to zero, arrival outputs updates when doors begin to open. Units are in seconds.
Parking	Parking options
OOS	Car out of service options
En. 3 Digit PI	Enables 3-digit PI
Payment Passcode	Controller passcode
Lockout Passcode	Sets the screen lockout code which restricts access to allowed elevator personnel
Dir. Counter Limit	Sets a limit on the number of trips done in the opposite direction. Once it is exceeded, the car will go into OOS Mode.
Dir. Change Delay	Sets the time to delay car direction changes. Allows time for passengers to enter their car calls. Units are in 1 second counts.
Default	Parameter default options
Parking	
GUI Parking	Enable GUI parking
Parking Timer (1 sec)	Sets the zero, pa
Parking Floor	Floor the car parks at
Parking Door Open	Enables parking with doors open
OOS	

Menu	Description
Disable OOS	Disables the controller from going out of service due to reoccurring faults
Hourly Fault Limit	Sets the number of faults allowed within a 1-hour window before the car goes out of service. If the car goes out of service, it remains out of service until the hour window elapses.
Max Starts Per Minute	Specifies how many times the car may attempt to start a run in automatic operation during a 1-minute window. If the controller attempts additional runs, the car goes out of service until the real-time clock increments to the next minute. Set this parameter to zero to disable the feature.
Disable PI OOS	When set ON, OOS does not flash on the PI when the car is out of group
Default	
Default Floors	Default learned floor values
Default S-Curve	Default Digital S-curve Technology ™ (U.S. Patent Pending) values
Default Run Timers	Default Run Timer values
Default I/O	Default inputs and outputs
Default Factory	Restore all parameters to factory settings
Default FRAM	Set ON to default the FRAM chip. This option is self-resetting. This clears fault/alarm logs, latched faults, emergency bits and run counter.
Default Other	Defaults all miscellaneous values
NTS	
NTS Pos	Calculated NTS positions
NTS Vel	Calculated NTS velocities
NTS Pos	
NTS Pos 1	Calculated NTS Position 1 – Normal Profile
NTS Pos 3	Calculated NTS Position 3 – Emergency Power Profile
NTS Pos 4	Calculated NTS Position 4 – Short Profile
NTS VEL	
NTS Vel 1	Calculated NTS Velocity 1 – Normal Profile
NTS Vel 3	Calculated NTS Velocity 3 – Emergency Power Profile
NTS Vel 4	Calculated NTS Velocity 4 – Short Profile

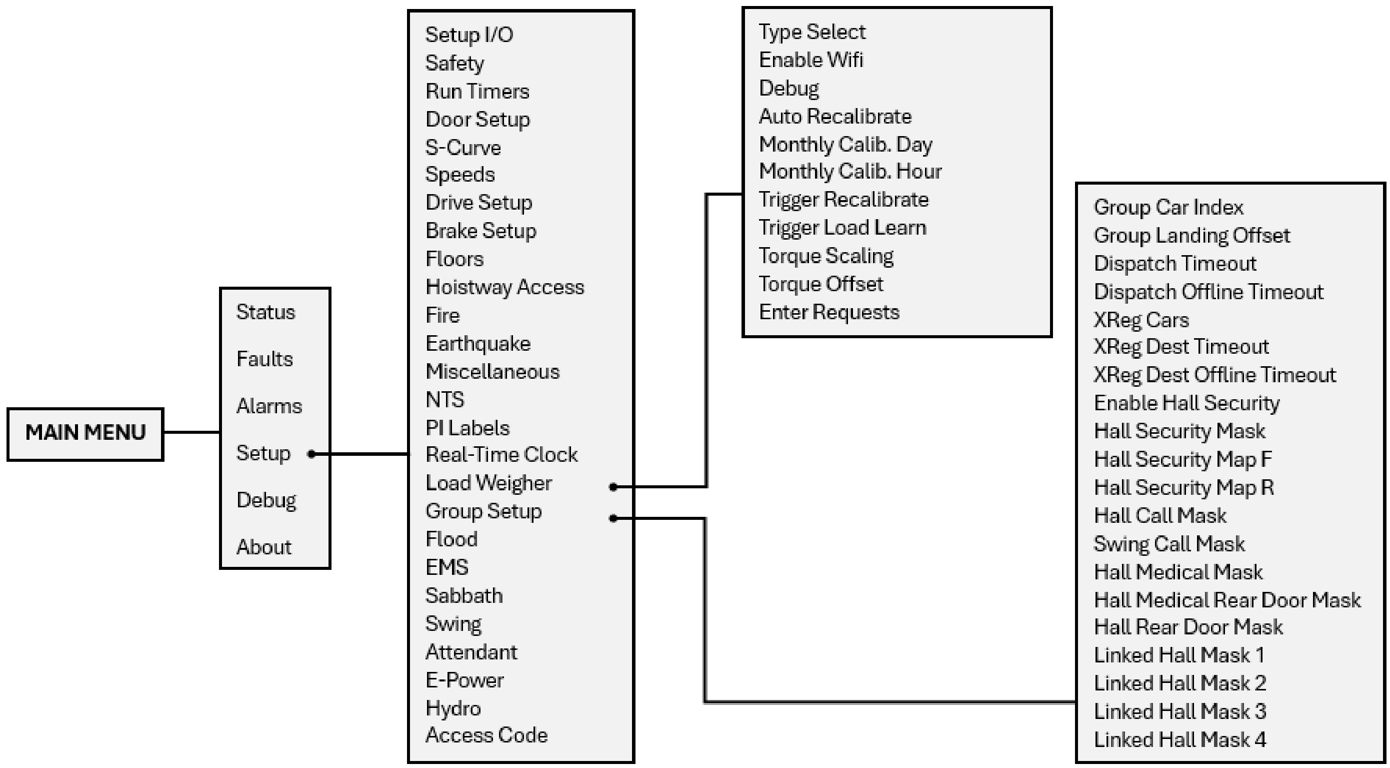

Figure 130: Setup – Load Weigher and Group Setup Menus

The table below lists the Setup – Load Weigher and Group Setup menu structures.

Table 59: Setup – Load Weigher and Group Setup Menu Structures

Menu	Description
Setup	
PI Labels	Set Position Indicator labels
Real-Time Clock	Set internal clock time for fault identification
Load Weigher	Load Weigher menu options
Group Setup	Group setup parameters
Load Weigher	
Type Select	Select the type of load weigh device used
Enable WiFi	Enables WiFi connection to load weighing device
Debug	When set to On, allows for viewing of load weighing device packet receive counts and raw load values
Auto Recalibrate	When set to On, the car regularly recalibrates its load weighing device.
Monthly Calib. Day	Day of the month the C4 is set for monthly automatic load recalibration
Monthly Calib. Hour	Time of the day the C4 is set for monthly automatic load recalibration
Trigger Recalibrate	When set to On, the car performs a load weighing device empty load recalibration.
Trigger Load Learn	When set to On, the car performs load weighing device full load calibration.

Menu	Description
Torque Scaling	Sets a scaling value to multiply by the torque output of the Smartrise load weighing device. The value is a signed 8-bit integer in percentage format.
Torque Offset	Sets an offset to add to the Smartrise load weighing device torque percentage output. Value is a signed 8-bit integer.
Enter Requests	Commands sent to load weighing device
	Group Setup
Group Car Index	Sets the car's group ID.
Group Landing Offset	Sets an offset to the bottom landing so hall calls can be aligned properly for all cars in a group. If car 1 serves landing 1 and car 2 starts servicing landing 2, then car 2 would have an offset of 1.
Dispatch Timeout (1 sec)	Sets the time the car has to respond to a destination assignment before it temporarily removes itself from the group and the call is be reassigned. This prevents excessive delays in answering hall calls due to someone holding open the car door. If either the dispatch timeout or dispatch offline are set to zero, this feature is disabled. Should be set to 0 if only one car is in the group.
Dispatch Offline (1 sec)	Sets the time the car removes itself from the group after failing to take an assigned call. If either the dispatch timeout or dispatch offline are set to zero, this feature is disabled.
XReg Cars	Sets the number of X-Reg cars to include in dispatching
XReg Dest Timeout (10 sec)	Sets the time the XReg car has to respond to a destination assignment before it temporarily removes itself from the group and the call is be reassigned. This prevents excessive delays in answering hall calls due to someone holding open the car door. If either the dispatch timeout or dispatch offline are set to zero, this feature is disabled.
XReg Dest Offline Timeout (10 sec)	Sets the time the XReg car removes itself from the group after failing to take an assigned call. If either the dispatch timeout or dispatch offline are set to zero, this feature is disabled.
Enable Hall Security	Enables Hall Security
Hall Security Mask	Turn ON/OFF which hall board function will have hall call security.
Hall Security Map Front	Turn ON/OFF Hall Call security for front landings
Hall Security Map Rear	Turn ON/OFF Hall Call security for rear landings
Hall Call Mask	Turn ON/OFF which hall board function the car will respond to for hall calls
Swing Call Mask	Turn ON/OFF which hall board functions the car will treat as a swing hall call. NOTE: Swing call mask cannot overlap with Medical Mask or Hall Call Mask.
Hall Medical Mask	Turn ON/OFF which hall board functions the car will treat as Emergency Medical Service call. NOTE: Medical Mask cannot overlap with Swing call mask or Hall Call Mask.
Hall Medical Rear Door Mask	Turn ON/OFF which hall board functions the car will treat as rear Emergency Medical Service call. NOTE: Medical Mask cannot overlap with Swing call mask or Hall Call Mask.
Hall Rear Door Mask	Turn ON/OFF which hall board functions are for rear opening. This acts as a modifier to the mask it overlaps with.

Menu	Description
Linked Hall Mask 1	First set of Hall board functions that are turned ON are linked together. If 01 is ON and 02 is ON, a hall call on function 1 would latch the lamp for function 2.
Linked Hall Mask 2	Second set of Hall board functions that are turned ON are linked together. If 01 is ON and 02 is ON, a hall call on function 1 would latch the lamp for function 2.
Linked Hall Mask 3	Third set of Hall board functions that are turned ON are linked together. If 01 is ON and 02 is ON, a hall call on function 1 would latch the lamp for function 2.
Linked Hall Mask 4	Fourth set of Hall board functions that are turned ON are linked together. If 01 is ON and 02 is ON, a hall call on function 1 would latch the lamp for function 2.

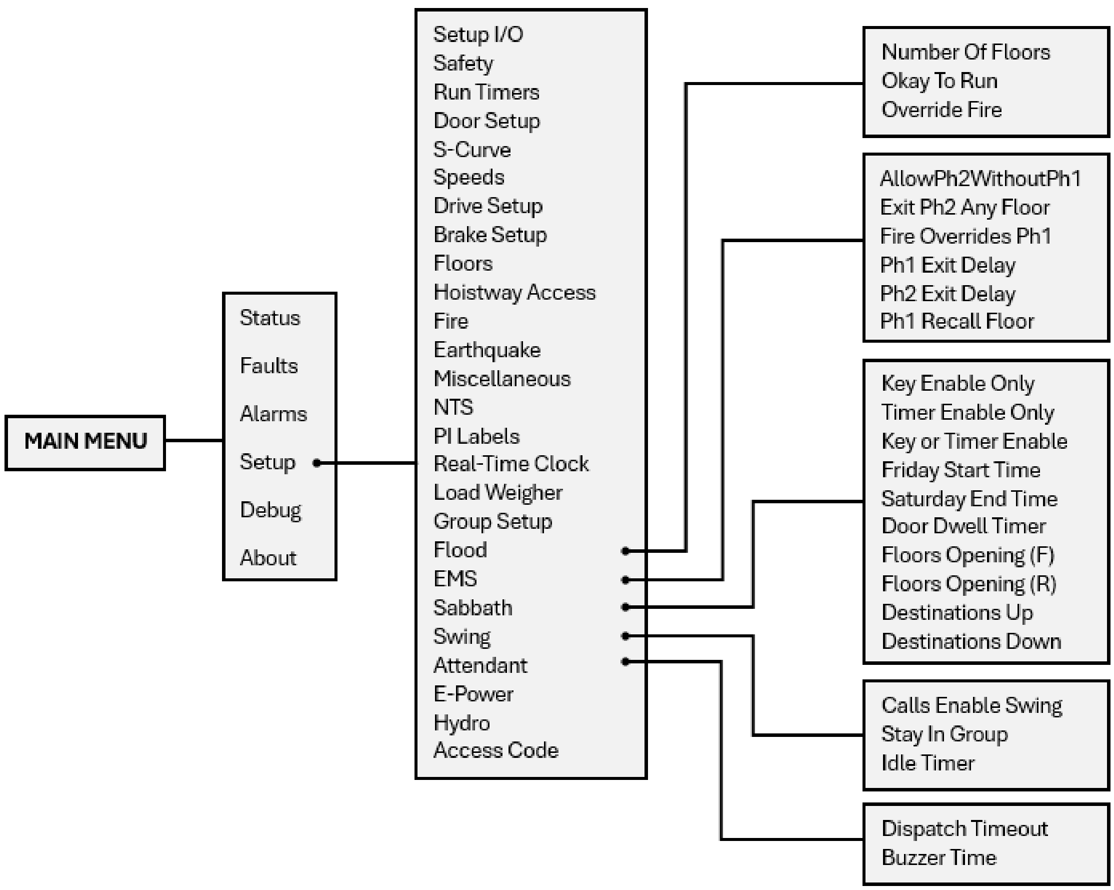

Figure 131: Setup – Flood, EMS, Sabbath, Swing, and Attendant Menus

The table below lists the Setup – Flood, EMS, Sabbath, Swing, and Attendant menu structures.

Table 60: Setup – Flood, EMS, Sabbath, Swing, and Attendant Menu Structures

Menu	Description
Setup	
Flood	Flood options
EMS	Emergency medical service options

Menu	Description
Sabbath	Sabbath operation options
Swing	Swing operation options
Attendant	Attendant service options
Flood	
Number of Floors	Used in conjunction with the flood switch input. If a flood is detected, then this parameter tells the controller which floors to avoid. If set to zero, the elevator can go to all floors. If the flood switch is active and this parameter is set to one, then the car is not allowed to go to the bottom floor. If set to two, then elevator cannot go to bottom two floors, etc.
Okay to Run	Allows car to continue to run above the configured flood sensor floor
Override Fire	Allows flood operation to take priority over fire operation
EMS	
Allow Ph2WithoutPh1	Allows activation of Medical Phase 2 even if the car was never placed on Phase 1
Exit Ph2 Any Floor	Allows exiting of EMS Phase 2 at any floor. Jobs with full hospital service should have this parameter turned ON. Jobs with EMT service should have this parameter OFF.
Fire Overrides Ph1	When set ON, the activation of a smoke or Fire Phase 1 key causes a car that is currently on EMS Phase 1 to exit medical service and go on Fire Phase 1 recall. When turned OFF, the car remains on EMS Phase 1.
Ph1 Exit Delay (1 sec)	When a car is called to a landing by an EMS Phase 1 key, this parameter specifies how long it will remain there before returning to normal operation if no one places it on EMS Phase 2.
Ph2 Exit Delay (1 sec)	Specifies how long to wait after exiting EMS Phase 2 before returning to normal operation. A programmable delay allows time for the patient to be removed from the elevator if EMS Phase 2 were turned off prior to removing the patient.
Ph1 Recall Floor	The floor at which the car recalls to during MA EMS mode.
Sabbath	
Key Enable Only	When set ON, Sabbath operations is only activated by keyswitch input
Timer Enable Only	When set ON, Sabbath operation is activated by only the configured Sabbath Start Time and Sabbath End Time
Key or Timer Enable	When set ON, Sabbath operation is activated by either keyswitch input or configured Sabbath Start Time and Sabbath End Time
Friday Start Time	Sets the Friday start time for Sabbath when timer enable is set. Format is HHMM, for example 12:34 PM would be 1234.
Saturday End Time	Sets the Saturday end time for Sabbath when timer enable is set. Format is HHMM, for example, 12:34 PM would be 1234.
Door Dwell Timer (1 sec)	Sets the time car doors remain open while in Sabbath operation
Sabbath (F)	Sets the front opening floors to be serviced during Sabbath operation
Sabbath (R)	Sets the rear opening floors to be serviced during Sabbath operation
Destinations Up	Set which floors to stop at during Sabbath up operation
Destinations Down	Set which floors to stop at during Sabbath down operation

Menu	Description
Swing	
Calls Enable Swing	Allows swing calls to activate swing operation
Stay in Group	Allows the car to continue to take regular hall calls while in swing operation
Idle Timer (1 sec)	If Swing Mode is entered by a button press, this timer specifies how long to remain in Swing operation once the car is idle
Attendant	
Dispatch Timeout	Sets the time the car removes itself from answering hall calls after failing to take an assigned call while on attendant service. If either the dispatch timeout or dispatch offline are set to zero, this feature is disabled. If only one car is on attendant service, this feature should be disabled.
Buzzer Time (100ms)	Specifies how long to sound the buzzer to alert the attendant that a hall call was pressed

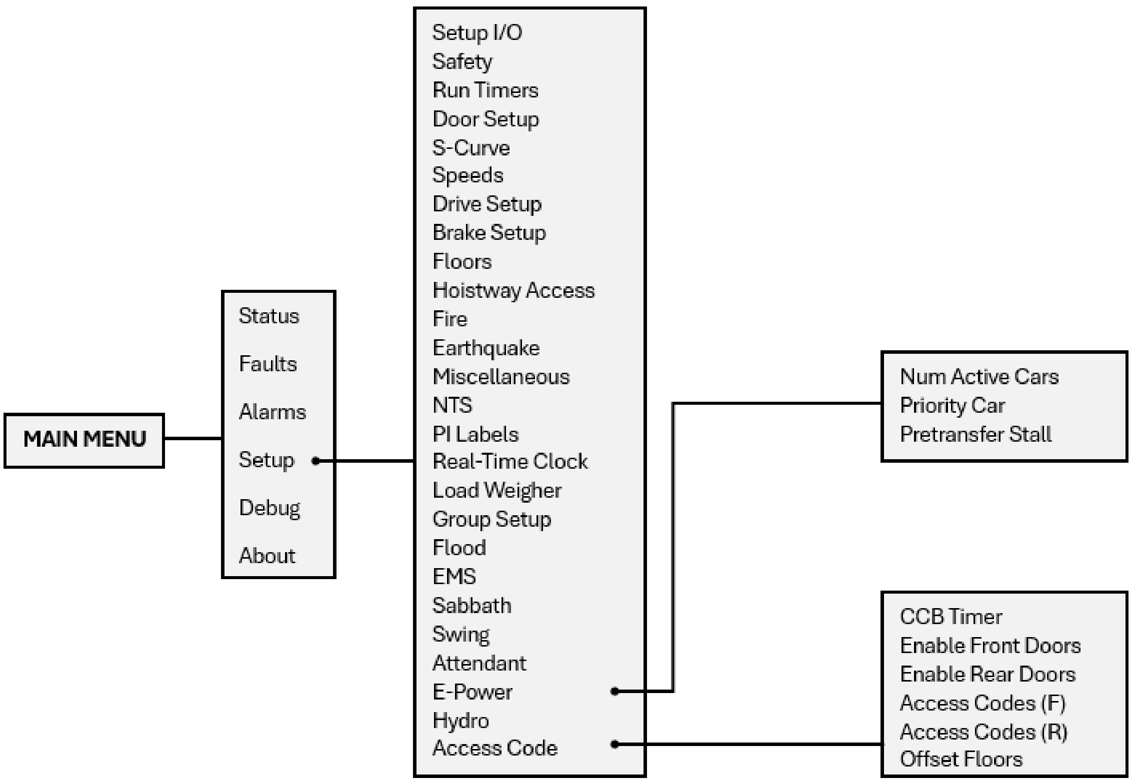

Figure 132: Setup – E-Power and Access Code Menus

The table below lists the Setup – E-Power and Access Code menu structures.

Table 61: Setup – E-Power and Access Code Menu Structures

Menu	Description
Setup	
E-Power	Emergency power options
Access Code	Access code options
E-Power	

Menu	Description
Num of Active Cars	Sets the number of cars allowed to run during emergency power operation
Priority Car	Sets the first car selected when on emergency power and when the auto select input is active.
Pretransfer Stall	When set ON, if the Emergency Power Pretransfer input is active, cars stop in a faulted state wherever they are. When set to OFF, cars instead move to the nearest landing and go out of service with the door open. This option is used when the system is wired to use pretransfer input to delay cars both at the transfer into and out of emergency power.
Access Code	
CCB Timer	Time for registering a car call after access code is entered
Enable Front Doors	Disables access code on front doors
Enable Rear Doors	Disables access code on rear doors
Access Code (F)	Code that gives access to front door car calls
Access Code (R)	Code that gives access to rear door car calls
Offset Floors	The first floors to offset when applying the access code

1.4 Debug

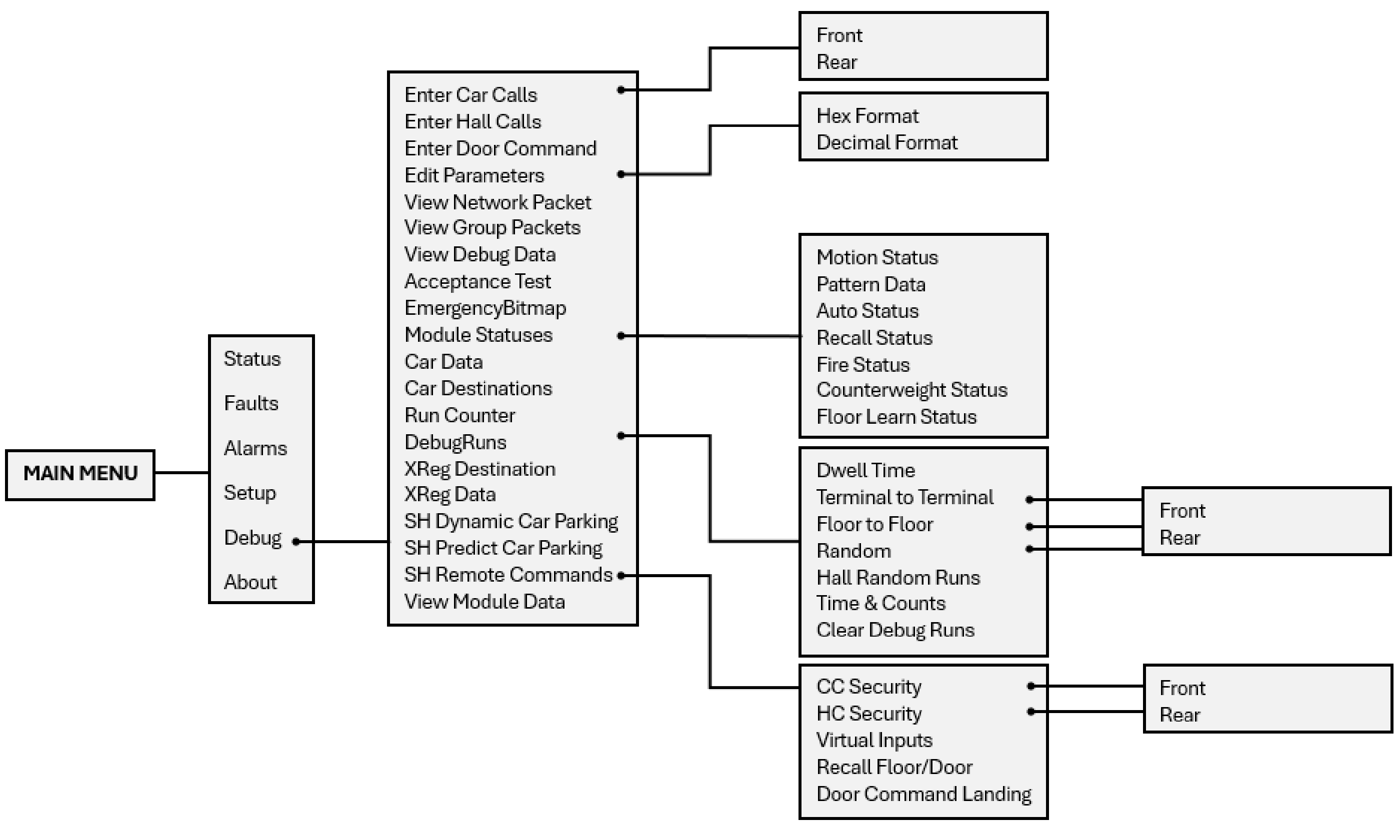

Figure 133: Debug Menus

The table below lists the Debug menu structures.

Table 62: Debug Menu Structures

Menu	Description
	MAIN MENU
Debug	Debug menu options
About	View job name and software version
	Debug
Enter Car Calls	Manually latch car calls. Calls entered here bypass security.
Enter Hall Calls	Enter hall calls to a specific landing and mask
Enter Door Command	Enter door commands
Edit Parameters	Edit parameters in hex or decimal
View Network Packet	Debug option to view network packets
View Group packets	Debug option to view group packets
View Debug Data	Debug option to view various controller data
Acceptance Test	Acceptance testing options
EmergencyBitmap	Emergency power debug option
Module Statuses	Debug option to view module status
Drive Setup	Drive setup options
Car Data	View car data
Car Destination	View car destination data
Run Counter	View number of runs car completed
DebugRuns	Random run generator
XReg Destination	Cross registration destination data
XReg Data	Miscellaneous cross registration data
SH Dynamic Parking	Parking based on priority landings
SH Predict Parking	Parking assignment based on prior history
SH Remote Commands	Virtual commands to the controller
View Module Data	View various information associated to specific modules
	Enter Car Calls
Front	Generate front car calls
Rear	Generate rear car calls
	Edit Parameters
Hex Format	Edit parameters in Hex format
Decimal Format	Edit parameters in Decimal format
	Module Statuses
Motion Status	Motion sequence status
Pattern Data	View status of pattern
Auto Status	View status of auto operation
Recall Status	View status of car recall operation
Fire Status	View status of fire service operation
Counterweight Status	View status of counterweight derailment
Floor Learn Status	View status of floor learn operation
	Drive Setup
Select Drive	Allows for selecting the type of drive used
Enable Drive Edit	Enables editing of drive parameters
Edit Parameter	Allows for editing the parameters for the drive according to the configuration information
	DebugRuns
Dwell Time	Time between debug car calls for random call generator
Terminal to Terminal	Enables terminal to terminal runs

Menu	Description
Floor to Floor	Enables floor to floor calls
Random	Generates random car calls
Hall Random Runs	Generates random hall calls
Time & Counts	Displays the elapsed time and number of trips when the car is on floor-to-floor, terminal-to-terminal, and random runs modes.
Clear Debug Runs	Clears any/all debug runs
Terminal to Terminal	
Front	Enables front door terminal to terminal runs
Rear	Enables rear door terminal to terminal runs
Random	
Front	Enables front door random calls
Rear	Enables rear door random calls
SH Remote Commands	
CC Security	Allows for remote secure car calls
HH Security	Allows for remote secure hall call
Virtual Inputs	Allows for a variety of inputs set remotely
Recall/Floor Door	Sets recall floor and door that opens when remote recall to floor input is asserted
Door Command Landing	Sets door command to a designated landing
CC Security	
Front	Enables front door security car calls
Rear	Enables rear door security car calls
HC Security	
Front	Enables front door security hall calls
Rear	Enables rear door security hall calls

2 High-Level Navigation Menu Structure

The high-level navigation presents a hierarchical structure of menus used for setup, troubleshooting, and status checks of the controller.

2.1 Main Menu

Figure 134: MAIN MENU – Status, Faults, Alarms

Figure 135: MAIN MENU – Setup, Debug, About

2.2 Status

The STATUS menus provide real-time information about key system functions.

2.2.1 Inputs, Outputs, Brake Statuses

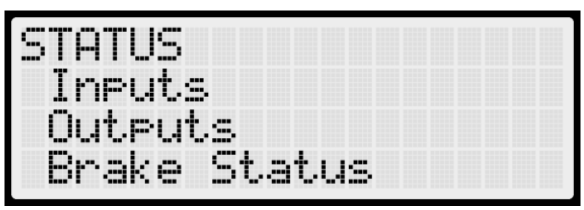

Figure 136: STATUS Menu – Inputs, Outputs, Brake Status

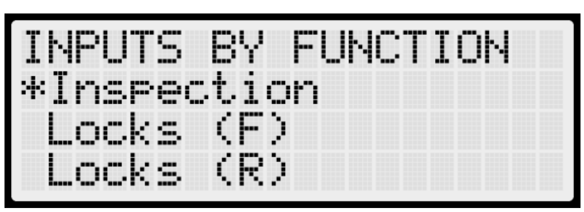

Figure 137: INPUTS BY FUNCTION Menu – Inspection

Figure 138: INPUTS BY FUNCTION – INSPECTION Menu Example

Figure 139: OUPTUS BY FUNCTION Menu – Controller

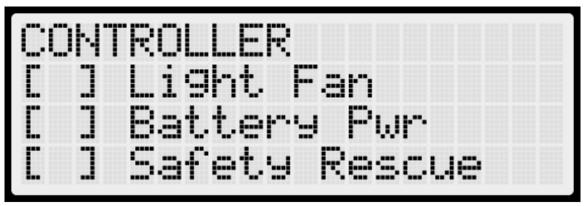

Figure 140: OUPTUS BY FUNCTION – CONTROLLER Menu Example

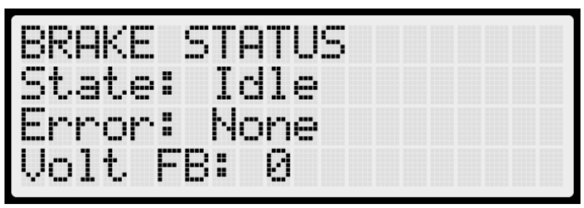

Figure 141: BRAKE STATUS Menu

2.2.2 Ebrake Status, Expansion Status

Figure 142: STATUS Menu – Ebrake Status, Expansion Status

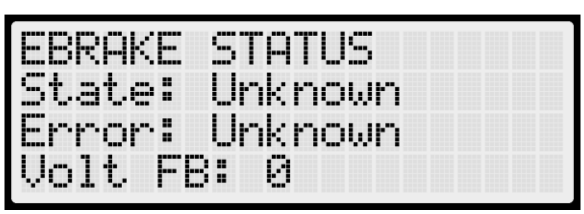

Figure 143: EBRAKE STATUS Menu

```
EXPANSION STATUS
 Expansion 1-8
 Expansion 9-16
 Expansion 17-24
```

Figure 144: EXPANSION STATUS Menu – Expansion Group

```
EXP01 - ONLINE
IN: 1.......
OUT: 1.......
ERR: None
```

Figure 145: Active Expansion Board Status

```
EXP17 - OFFLINE
IN: ........
OUT: ........
ERR: Unknown
```

Figure 146: Inactive Expansion Board Status

Refer to the **System Configurations** for further details on the Expansion Status menu.

2.2.3 Riser Board Status, Hall Board Status, Hall Lantern Status

```
STATUS
*Riser Board Status
 Hall Board Status
 Hall Lantern Status
```

Figure 147: STATUS Menu – Riser Board Status, Hall Board Status, Hall Lantern Status

```
RIS1 Active   v.MRT8
 ERR: None
 IN: 12345.78
 OUT: 1.......
```

Figure 148: Active Riser Board Status

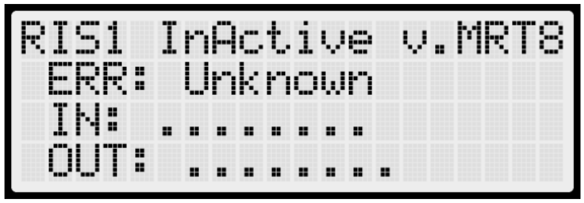

Figure 149: Inactive Riser Board Status

Refer to the **System Configurations** for further details on the Riser Board Status menu.

Figure 150: Hall Board Status

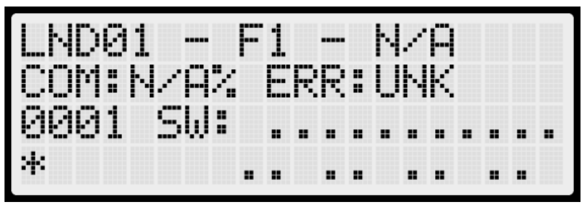

Figure 151: Uninitialized Hall Board Status

Refer to the **System Configurations** for further details on the Hall Board Status menu.

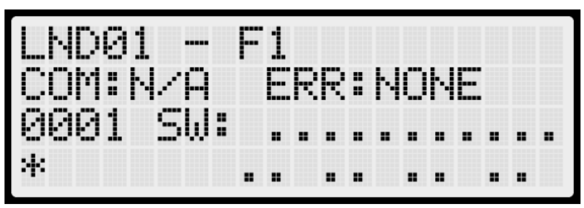

Figure 152: Hall Lantern Status

Figure 153: Uninitialized Hall Lantern Status

2.2.4 Hall Security Status, Hall Call Status, DAD Status

Figure 154: STATUS Menu – Hall Security Status, Hall Call Status, DAD Status

Figure 155: Hall Security Status

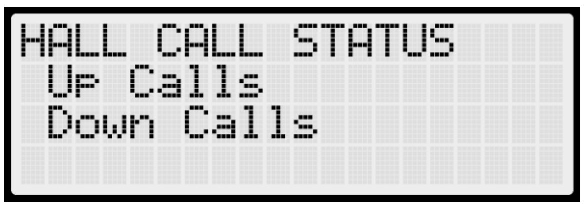

Figure 156: HALL CALL STATUS Menu – Up or Down Calls

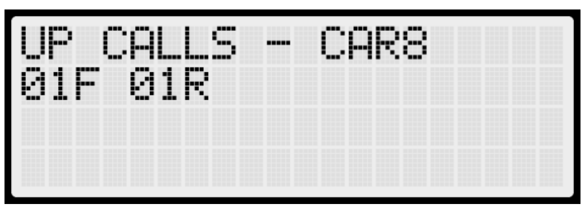

Figure 157:UP CALLS Menu

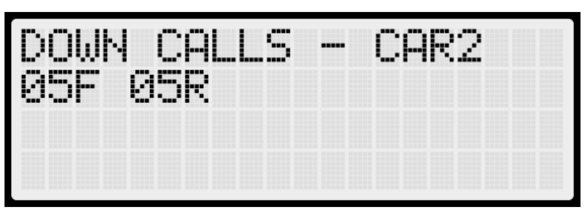

Figure 158: DOWN CALLS Menu

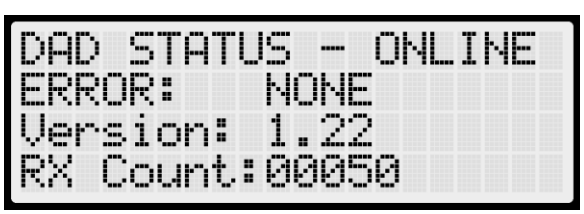

Figure 159: DAD STATUS Menu

Refer to the **Features & Modes of Operation** for further details on the DAD Status menu.

2.2.5 Clock, CPLD Status, Load Weigher Status

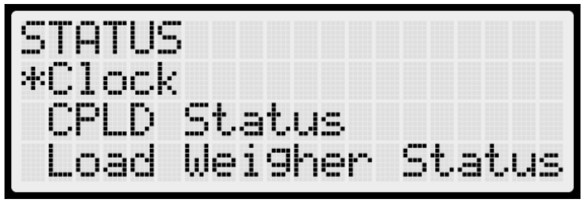

Figure 160: STATUS Menu – Clock, CPLD Status, Load Weigher Status

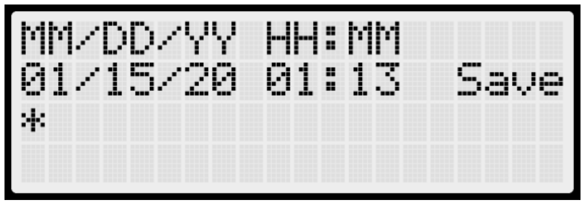

Figure 161: Real-Time Clock Menu

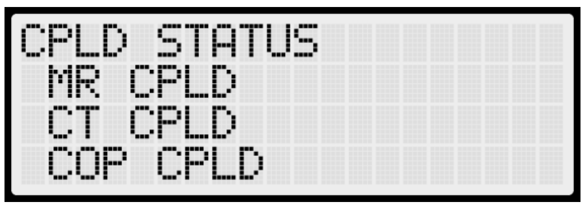

Figure 162: CPLD STATUS Menu – MR, CT, COP CPLD

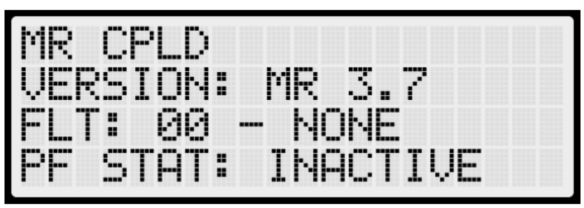

Figure 163: MR CPLD Menu

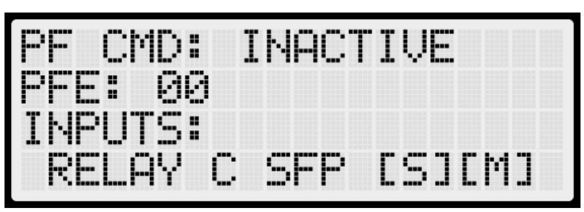

Figure 164: MR CPLD Menu Continued

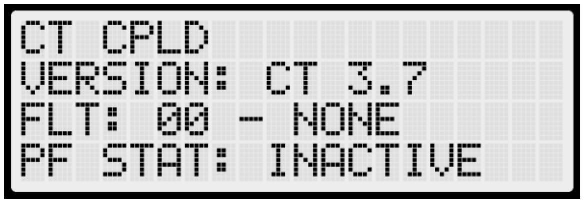

Figure 165: CT CPLD Menu

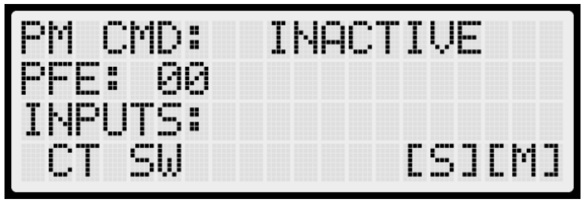

Figure 166: CT CPLD Menu Continued

Figure 167: COP CPLD Menu

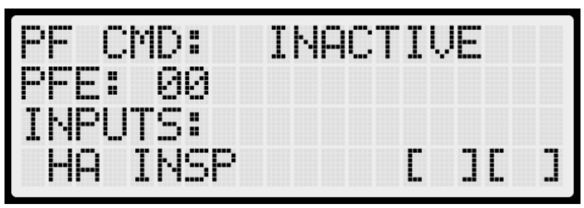

Figure 168: COP CPLD Menu Continued

Refer to the **System Configurations** for further details on the CPLD Status menu.

2.2.6 E-Power Status, EMS Status, Virtual Inputs

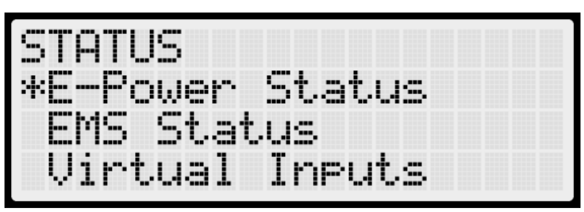

Figure 169: STATUS Menu – E-Power Status, EMS Status, Virtual Inputs

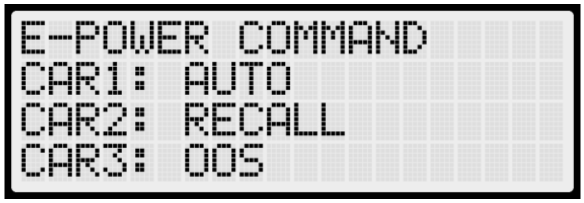

Figure 170: E-POWER COMMAND Menu

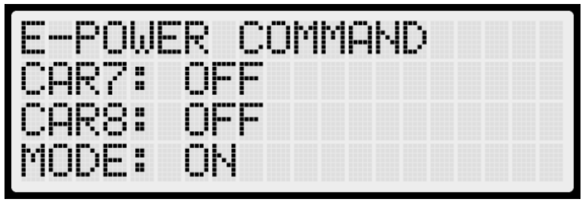

Figure 171: E-POWER COMMAND Menu Continued

Refer to the **System Configurations** for further details on the E-Power Status menu.

Figure 172: EMS STATUS Menu – Car 1 Assigned

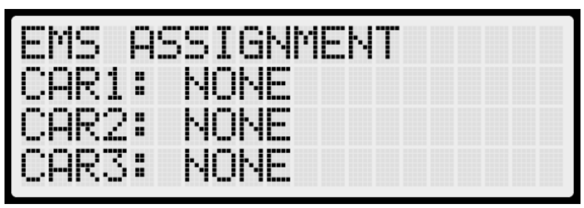

Figure 173: EMS STATUS Menu – No Cars Assigned

Figure 174: REMOTE COMMANDS Menu – Car Call Security, Hall Call Security, Virtual Inputs

Figure 175: SECURE CAR CALLS Menu – Front or Rear

Figure 176: Secure Car Front Menu

Figure 177: Secure Car Rear Menu

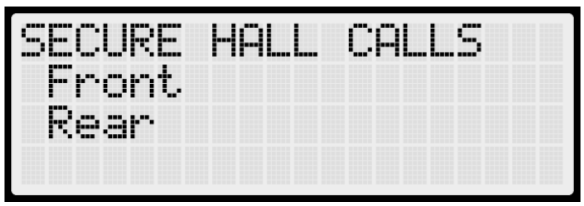

Figure 178: SECURE HALL CALLS Menu – Front or Rear

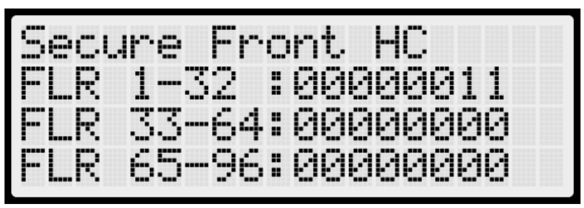

Figure 179: Secure Front Hall Call Menu

Figure 180: Secure Rear Hall Call Menu

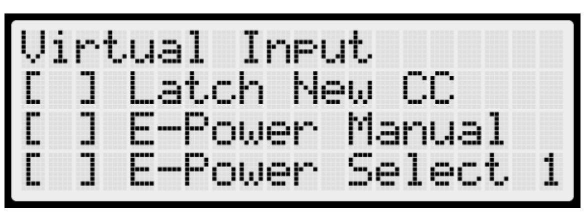

Figure 181: Virtual Input Menu

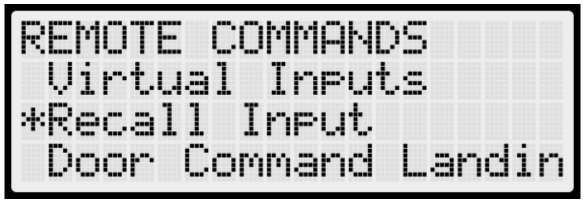

Figure 182: REMOTE COMMANDS Menu – Recall Input, Door Command Landing

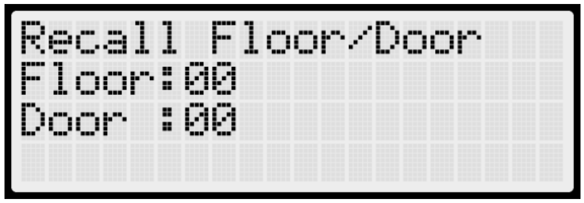

Figure 183: Recall Floor/Door Menu

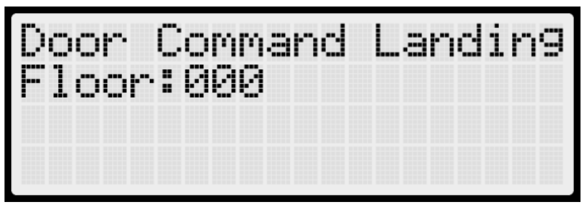

Figure 184: Door Command Landing Menu

2.2.7 DIP Status, Door Status

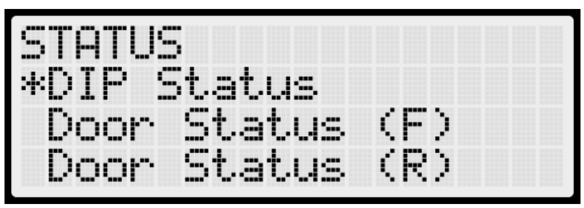

Figure 185: STATUS Menu – DIP Status, Door Status (F), Door Status (R)

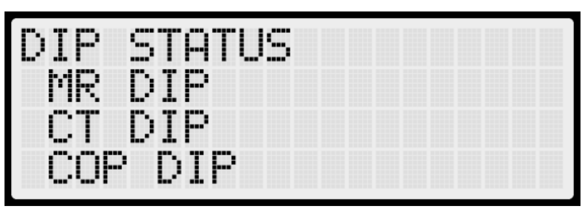

Figure 186: DIP STATUS Menu – MR, CT, or COP DIP

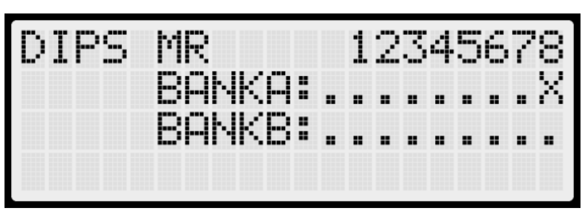

Figure 187: DIP SWITCHES Menu

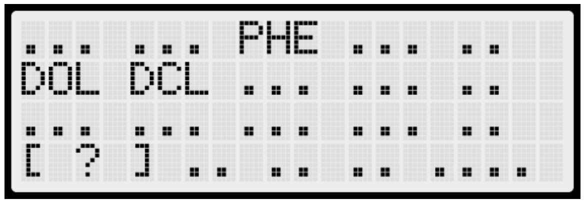

Figure 188: Door Status Menu

2.3 Faults

The FAULTS menu displays a list of active and logged faults.

Figure 189: FAULTS Menu – Active, Logged, Clear Log

Figure 190: Active Faults Menu

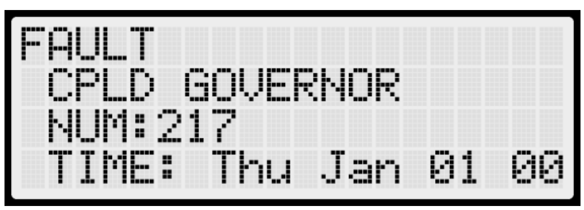

Figure 191: Fault Part 1 of 3

Figure 192: Fault Part 2 of 3

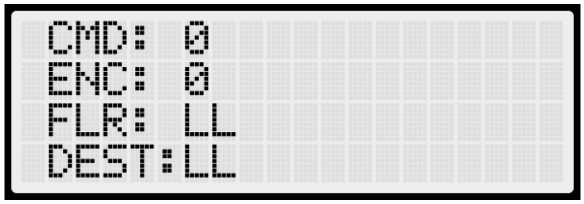

Figure 193: Fault Part 3 of 3

Figure 194: FAULT LOG Menu

2.4 Alarms

The ALARMS menu displays a list of active and logged alarms.

Figure 195: ALARMS Menu – Active, Logged, Clear Log

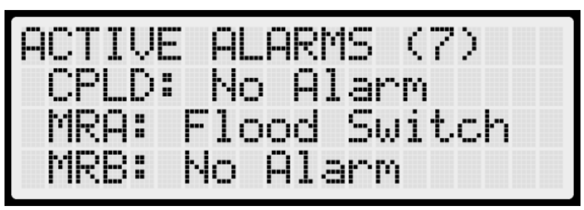

Figure 196: Active Alarms Menu

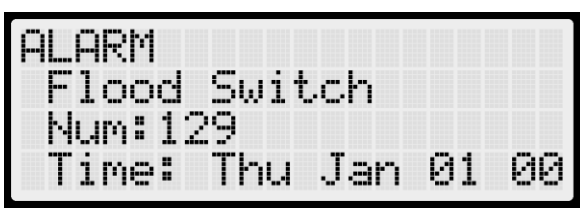

Figure 197: Alarm Part 1 of 2

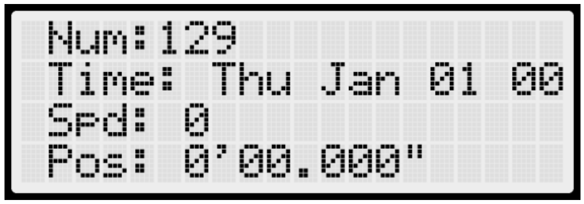

Figure 198: Alarm Part 2 of 2

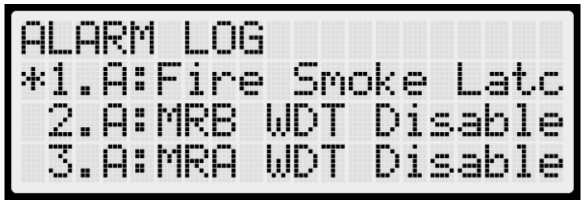

Figure 199: ALARM LOG Menu

2.5 Setup

The SETUP menu contains options used for system configuration.

2.5.1 Setup I/O, Safety, Run Timers

Figure 200: SETUP MENU – Setup I/O, Safety, Run Timers

2.5.1.1 Setup I/O – Invert Inputs, Invert Outputs, Setup Inputs

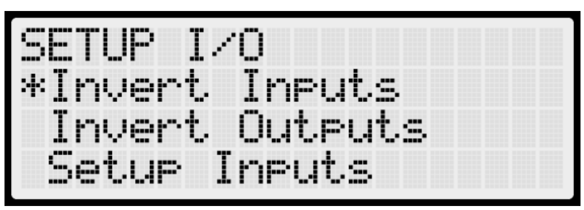

Figure 201: SETUP I/O Menu – Invert Inputs, Invert Outputs, Setup Inputs

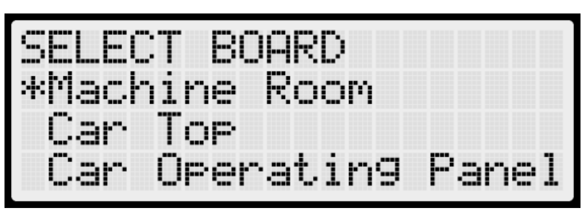

Figure 202: SELECT BOARD Menu – Machine Room, Car Top, Car Operating Panel

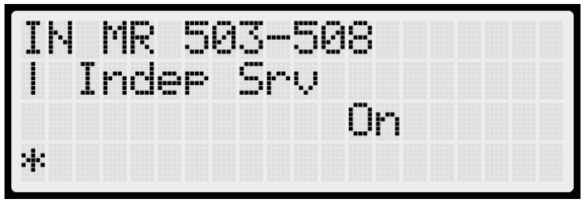

Figure 203: Invert Inputs Menu – Machine Room Example

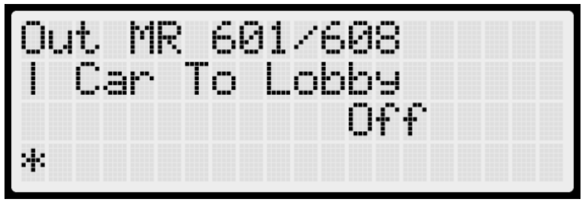

Figure 204: Invert Outputs Menu – Machine Room Example

Figure 205: Unused Input

2.5.1.2 Setup I/O – Setup Outputs

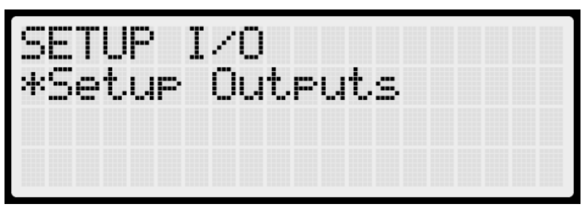

Figure 206: SETUP I/O Menu – Setup Outputs

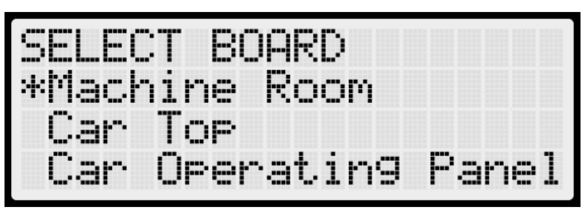

Figure 207: SELECT BOARD Menu – Machine Room, Car Top, Car Operating Panel

Figure 208: Unused Output

Refer to the **Inputs & Outputs** for further details on the Setup Inputs & Setup Outputs menus.

2.5.1.3 Safety – Speed Deviation, Traction Loss, Lock Clip

Figure 209: SAFETY Menu – Speed Deviation, Traction Loss, Lock Clip

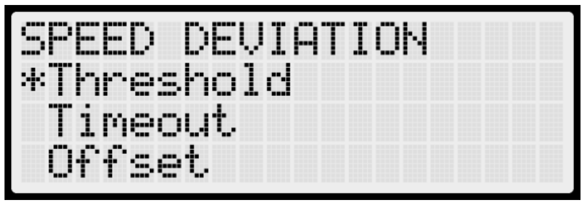

Figure 210: SPEED DEVIATION Menu

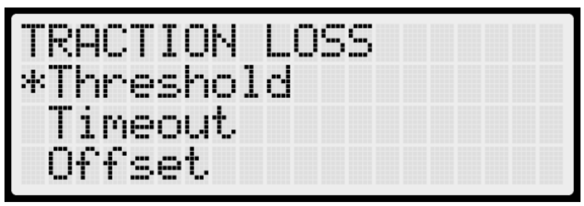

Figure 211: TRACTION LOSS Menu

2.5.1.4 Safety – Inspection ODL, Door Open ODL, ETS ODL

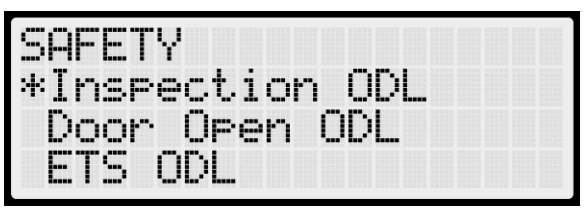

Figure 212: SAFETY Menu – Inspection ODL, Door Open ODL, ETS ODL

2.5.1.5 Safety – SFP Debounce Limit, General ODL, NTS ODL

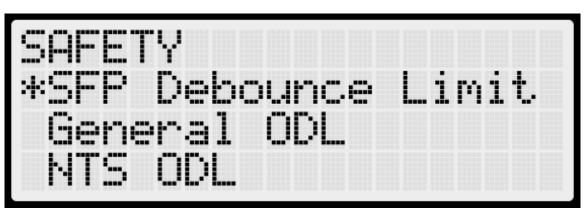

Figure 213: SAFETY Menu – SFP Debounce Limit, General ODL, NTS ODL

2.5.1.6 Safety – Const. ODL, Ebrake On Overspeed, Dis. Const. Overspeed

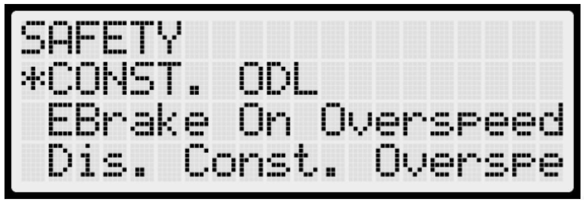

Figure 214: SAFETY Menu – Const. ODL, Ebrake On Overspeed, Dis. Const. Overspeed

2.5.1.7 Safety – ETS Offset, ETSL

Figure 215: SAFETY Menu – ETS Offset, ETSL

2.5.1.8 Run Timers – Start Timers, Stop Timers

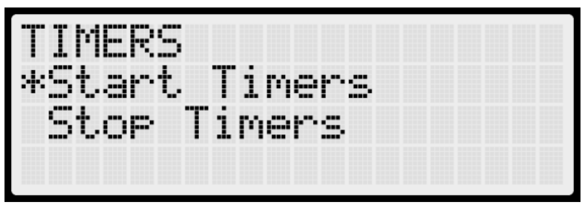

Figure 216: TIMERS Menu – Start Timers, Stop Timers

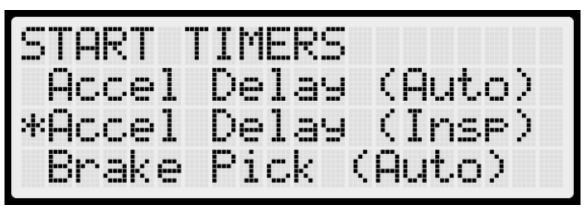

Figure 217: START TIMERS Menu – Accel Delay (Auto), Accel Delay (Insp), Brake Pick (Auto)

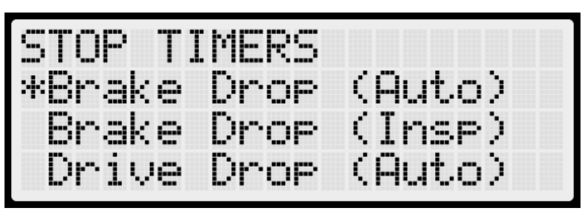

Figure 218: STOP TIMERS Menu – Brake Drop (Auto), Brake Drop (Insp), Drive Drop (Auto)

2.5.2 Door Setup, S-Curve, Speeds

Figure 219: SETUP MENU – Door Setup, S-Curve, Speeds

2.5.2.1 Door Setup – Control Doors, Door Dwell Timer, Hall Dwell Timer

Figure 220: DOORS Menu – Control Doors, Door Dwell Timer, Hall Dwell Timer

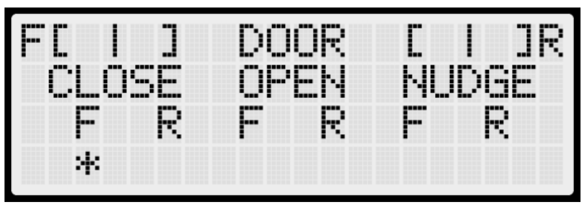

Figure 221: CONTROL DOORS Menu

2.5.2.2 Door Setup – ADA Dwell Timer, Hold Dwell Timer, Lobby Dwell Timer

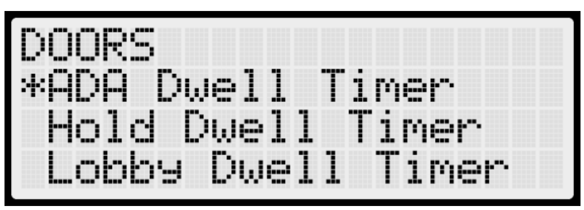

Figure 222: DOORS Menu – ADA Dwell Timer, Hold Dwell Timer, Lobby Dwell Timer

2.5.2.3 Door Setup – Door Stuck Timer, Door Nudge Timer, Rear Doors

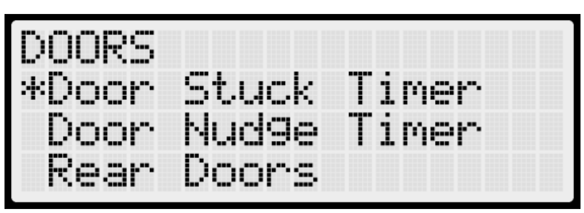

Figure 223: DOORS Menu – Door Stuck Timer, Door Nudge Timer, Rear Doors

2.5.2.4 Door Setup – PreOpening Distance, DC On Run, DC On Close

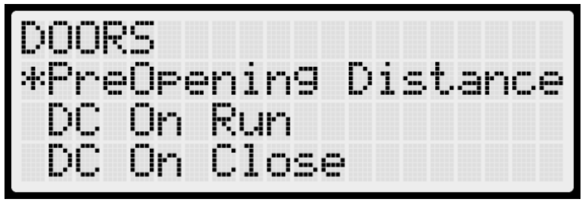

Figure 224: DOORS Menu – PreOpening Distance, DC On Run, DC On Close

2.5.2.5 Door Setup – DO On Open, Disable ON CT Stop, Disable On HA

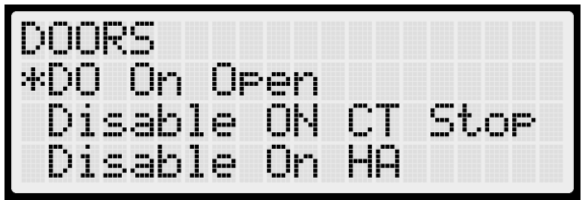

Figure 225: DOORS Menu – DO On Open, Disable ON CT Stop, Disable On HA

2.5.2.6 Door Setup – AT400, No Demand DO, Jumper Timer

Figure 226: DOORS Menu – AT400, No Demand DO, Jumper Timer

2.5.2.7 Door Setup – Jumper On DOL, Hourly Fault Limit, Nudge – Buzzer Only

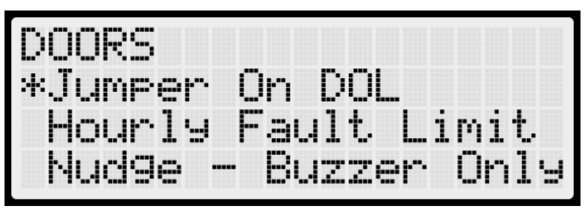

Figure 227: DOORS Menu – Jumper On DOL, Hourly Fault Limit, Nudge – Buzzer Only

2.5.2.8 Door Setup – Opening Time, Check Time

Figure 228: DOORS Menu – Opening Time, Check Time

2.5.2.9 Door Setup – Door Type, Swing Openings

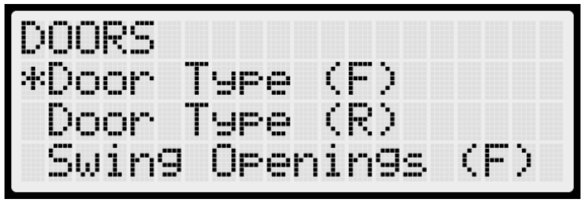

Figure 229: DOORS Menu – Door Type, Swing Openings

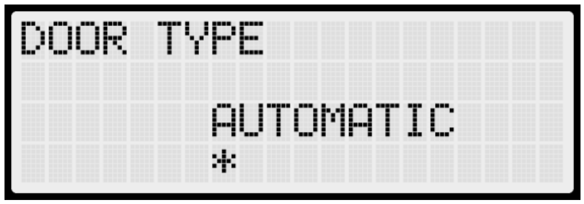

Figure 230: DOOR TYPE Menu

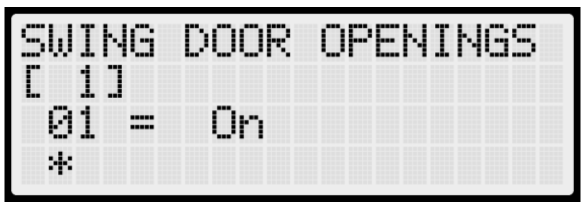

Figure 231: SWING DOOR OPENINGS Menu

2.5.2.10 Door Setup – Lock And CAM Timeout, Retiring CAM, Fixed CAM

Figure 232: DOORS Menu – Lock and CAM Timeout, Retiring CAM, Fixed CAM

2.5.2.11 Door Setup – Swing LCK GSW Timeout, Swing Contacts Timeout, Disable DOB Rear

Figure 233: DOORS Menu – Swing LCK GSW Timeout, Swing Contacts Timeout, Disable DOB Rear

2.5.2.12 S-Curve – Normal Profile, Inspection Profile, E-Power Profile

Figure 234: S-CURVE Menu – Normal Profile, Inspection Profile, E-Power Profile

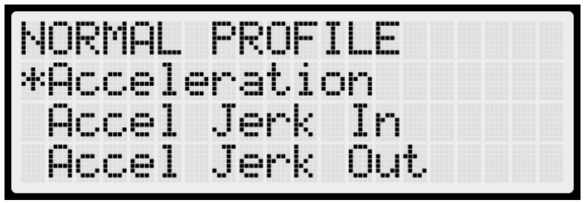

Figure 235: NORMAL PROFILE Menu – Acceleration, Accel Jerk In, Accel Jerk Out

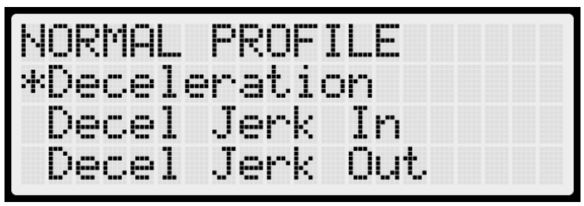

Figure 236: NORMAL PROFILE – Deceleration, Decel Jerk In, Decel Jerk Out

Figure 237: NORMAL PROFILE Menu – Leveling Distance

2.5.2.13 S-Curve – Quick Stop Decel, Leveling Decel, Soft Limit Dist Up

Figure 238: S-CURVE Menu – Quick Stop Decel, Leveling Decel, Soft Limit Dist Up

2.5.2.14 S-Curve – Soft Limit Dist Down, Short Run Min Dist, Dest. Offset Up

Figure 239: S-CURVE Menu – Soft Limit Dist Down, Short Run Min Dist, Dest. Offset Up

2.5.2.15 S-Curve – Dest. Offset Down, Relevel Offset Up, Relevel Offset Down

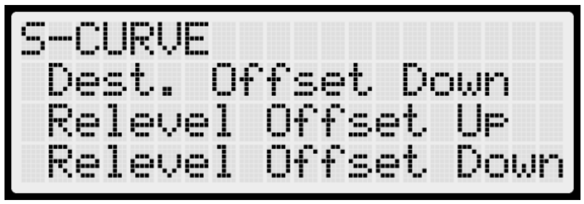

Figure 240: S-CURVE Menu – Dest. Offset Down, Relevel Offset Up, Relevel Offset Down

2.5.2.16 Speeds – Contract Speed, Inspection Speed, Access Speed, Learn Speed

Figure 241: SPEEDS Menu – Contract Speed, Inspection Speed, Access Speed

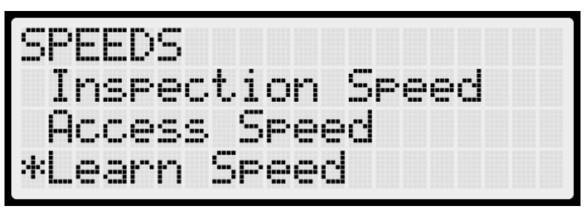

Figure 242: SPEEDS Menu – Learn Speed

2.5.2.17 Speeds – EPower Speed, Terminal Speed, Leveling Speed

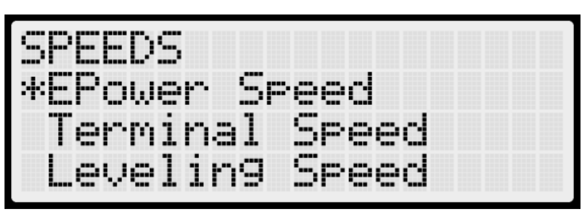

Figure 243: SPEEDS Menu – EPower Speed, Terminal Speed, Leveling Speed

2.5.2.18 Speeds – NTSD Speed, Min Accel Speed, Min Relevel Speed

Figure 244: Speeds Menu – NTSD Speed, Min Accel Speed, Min Relevel Speed

2.5.2.19 Speeds – Test A/D Speed, Test Buffer Speed

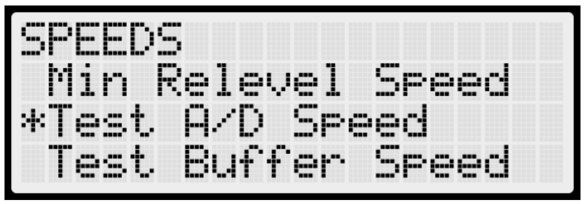

Figure 245: SPEEDS Menu – Test A/D Speed, Test Buffer Speed

2.5.3 Drive Setup, Brake Setup, Floors

Figure 246: SETUP MENU – Drive Setup, Brake Setup, Floors

2.5.3.1 Drive Setup – Select Drive, Enable Drive Edit, Edit Parameter

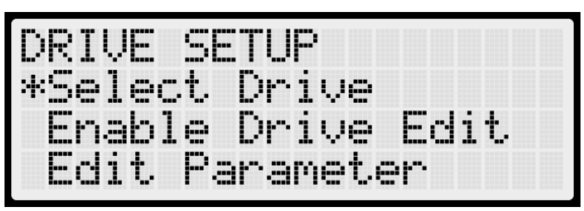

Figure 247: DRIVE SETUP Menu – Select Drive, Enable Drive Edit, Edit Parameter

2.5.3.2 Brake Setup – Primary Setup, Secondary Setup, Disable Latching Fault

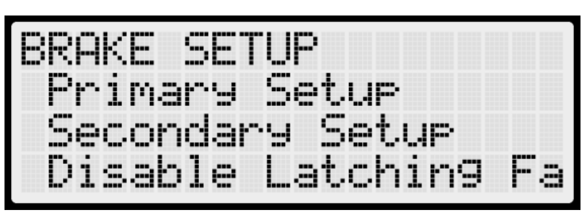

Figure 248: BRAKE SETUP Menu – Primary Setup, Secondary Setup, Disable Latching Faults

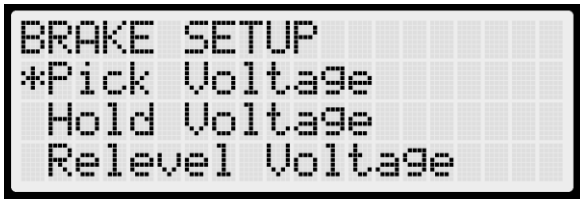

Figure 249: (Primary) BRAKE SETUP Menu – Pick Voltage, Hold Voltage, Relevel Voltage

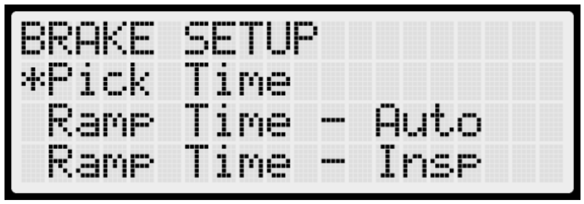

Figure 250: (Primary) BRAKE SETUP Menu – Pick Time, Ramp Time – Auto & Insp

Figure 251: (Primary) BRAKE SETUP Menu – Ramp Time – Relevel, BPS NC, BPS – Stop Seq

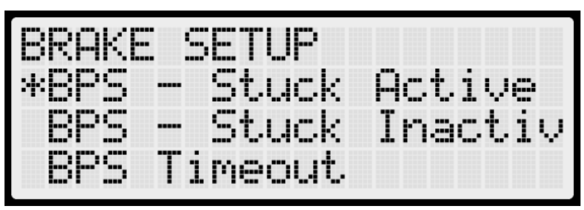

Figure 252: (Primary) BRAKE SETUP Menu – BPS – Stuck Active, BPS – Stuck Inactive, BPS Timeout

2.5.3.3 Floors – Number of Floors, Too High/ Too Low, Enable Releveling

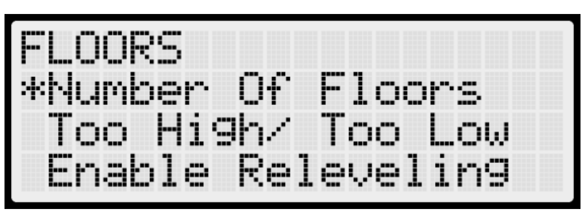

Figure 253: FLOORS Menu – Number Of Floors, Too High/ Too Low, Enable Releveling

Figure 254: ADJUST FLOORS Menu – Too High

Figure 255: ADJUST FLOORS Menu – Too Low

2.5.3.4 Floors – Relevel Zone Size, Releveling Delay, Openings

Figure 256: FLOORS Menu – Relevel Zone Size, Releveling Delay, Openings

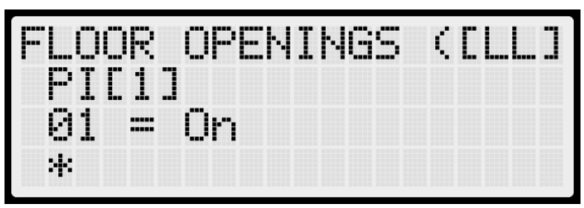

Figure 257: FLOOR OPENING Menu

2.5.3.5 Floors – Security, Wander Guard

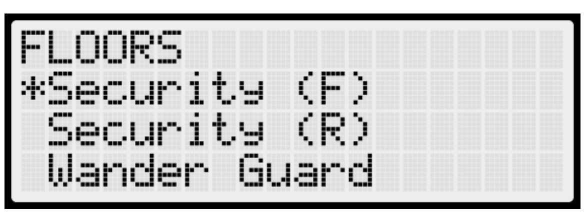

Figure 258: FLOORS Menu – Security, Wander Guard

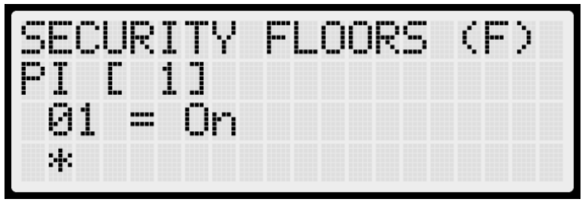

Figure 259: SECURITY FLOORS Menu

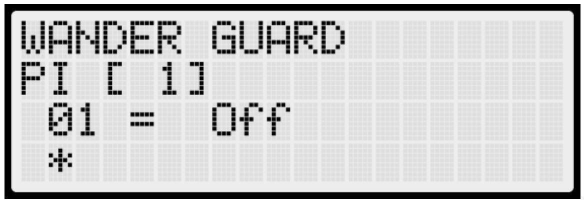

Figure 260: WANDER GUARD Menu

2.5.3.6 Floors – Store Floor Level, Short Floor Opening, Timed CC Security

Figure 261: FLOORS Menu – Store Floor Level, Short Floor Opening, Timed CC Security

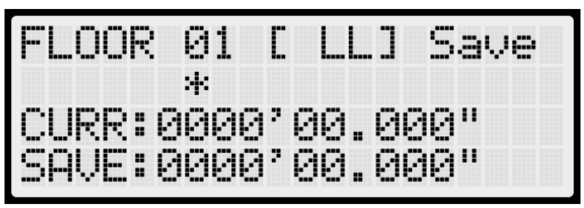

Figure 262: STORE FLOORS Menu

Figure 263: SHORT FLOOR OPENING Menu

Figure 264: TIMED CC SECURITY Menu – Enable Floor, Start (M-F)

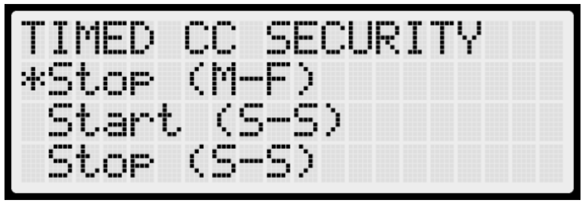

Figure 265: TIMED CC SECURITY Menu – Stop (M-F), Start (S-S), Stop (S-S)

Figure 266: TIMED CC SEC Menu – Enable Floor (F) Example

2.5.3.7 Floors – Timed HC Security

Figure 267: FLOORS Menu – Timed HC Security

Figure 268: TIMED HC SECURITY Menu – Enable Floor, Start (M-F)

Figure 269: TIMED HC SECURITY Menu – Stop (M-F), Start (S-S), Stop (S-S)

Figure 270: TIMED HC SEC Menu – Enable Floor (F) Example

2.5.4 Hoistway Access, Fire, Earthquake

Figure 271: SETUP MENU – Hoistway Access, Fire, Earthquake

2.5.4.1 Hoistway Access – Allowed Dist. Top, Allowed Dist. Bottom, Top Floor

Figure 272: HOISTWAY ACCESS – Allowed Distance Top, Allowed Dist. Bottom, Top Floor

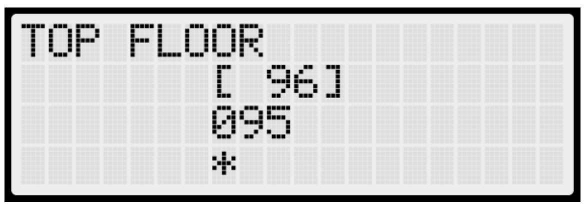

Figure 273: TOP FLOOR Menu

2.5.4.2 Hoistway Access – Bottom Floor, Top Opening, Bottom Opening

Figure 274: HOISTWAY ACCESS – Bottom Floor, Top Opening, Bottom Opening

Figure 275: BOTTOM FLOOR Menu

2.5.4.3 Hoistway Access – HA Slide Distance

Figure 276: HOISTWAY ACCESS – HA Slide Distance

2.5.4.4 Fire – Main Recall, Alt Recall, Main Smoke Actions

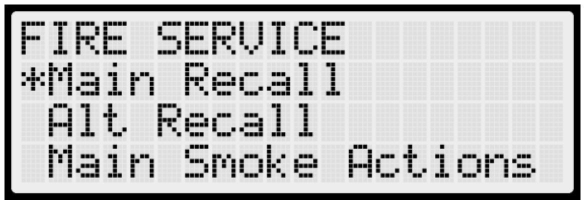

Figure 277: FIRE SERVICE Menu – Main Recall, Alt Recall, Main Smoke Actions

Figure 278: MAIN RECALL Menu – Floor, Opening

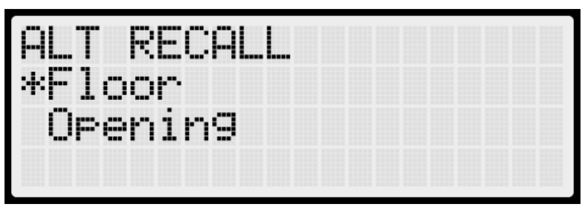

Figure 279: ALT RECALL Menu – Floor, Opening

Figure 280: MAIN SMOKE ACTION Menu – Main or Alt, Flash Fire Hat, Shunt Trip

2.5.4.5 Fire – Alt Smoke Actions, Hoistway Smoke Actions, MR Smoke Actions

Figure 281: FIRE SERVICE Menu – Alt Smoke Actions, Hoistway Smoke Actions, MR Smoke Actions

Figure 282: ALT SMOKE ACTION Menu – Main or Alt, Flash Fire Hat, Shunt Trip

Figure 283: HOISTWAY SMOKE ACTION Menu – Main or Alt, Flash Fire Hat, Shunt Trip

Figure 284: MR SMOKE ACTION Menu – Main or Alt, Flash Fire Hat, Shunt Trip

2.5.4.6 Fire – Recall Key, PIT Smoke, Alt Machine Room, Advance Configs

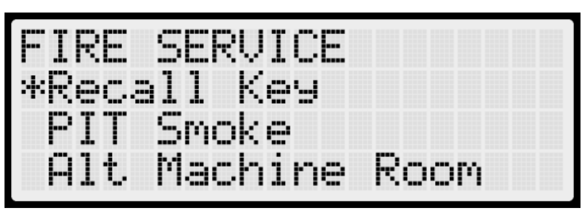

Figure 285: FIRE SERVICE Menu – Recall Key, PIT Smoke, Alt Machine Room

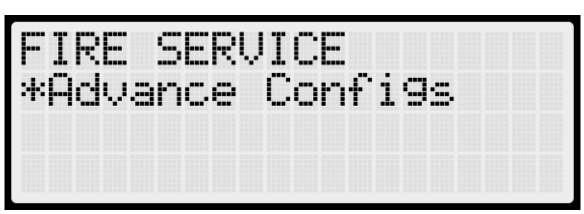

Figure 286: FIRE SERVICE Menu – Advance Configs

Figure 287: RECALL KEY Menu – Flash Fire Hat

Figure 288: PIT SMOKE Menu – Main or Alt, Flash Fire Hat, Shunt Trip

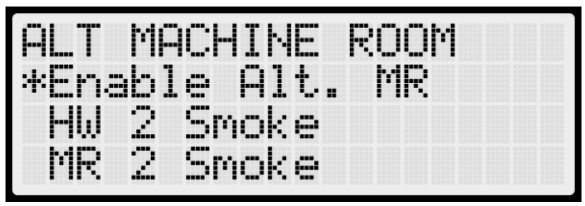

Figure 289: ALT MACHINE ROOM Menu – Enable Alt. MR, HW 2 Smoke, MR 2 Smoke

Figure 290: HOISTWAY 2 SMOKE Menu – Main or Alt, Flash Fire Hat, Shunt Trip

Figure 291: MR 2 SMOKE Menu – Main or Alt

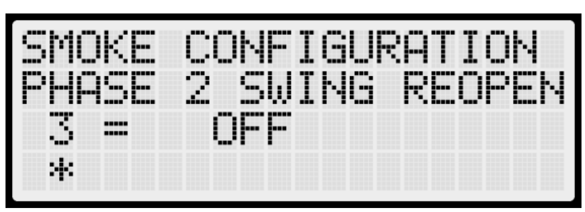

Figure 292: SMOKE CONFIGURATION Menu

2.5.4.7 Earthquake – Enable EQ, Set CW Pos

Figure 293: EARTHQUAKE Menu – Enable EQ, Set CW Pos

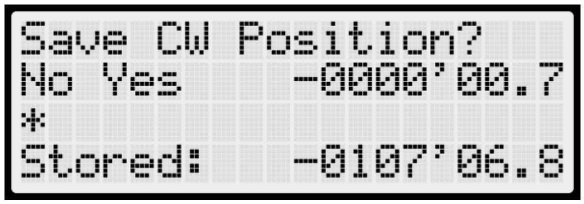

Figure 294: Save CW Position Menu

2.5.5 Miscellaneous, NTS, PI Labels

Figure 295: SETUP MENU –Miscellaneous, PI Labels, Real-Time Clock

2.5.5.1 Miscellaneous – Bypass Term Limits, Enable Const. Box, Max Run Time

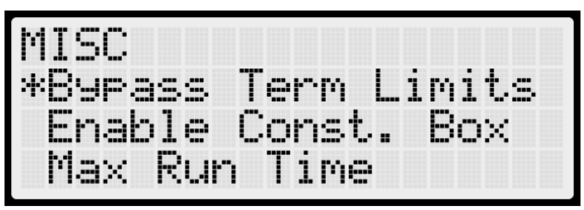

Figure 296: MISCELLANEOUS Menu – Bypass Term Limits, Enable Const. Box, Max Run Time

2.5.5.2 Miscellaneous – CT Insp. Req. IC, Dis. IdleTrvArrow, Enable Latches CC

Figure 297: MISCELLANEOUS Menu – CT Insp. Req. IC, Dis. IdleTrvArrow, Enable Latches CC

2.5.5.3 Miscellaneous – Fan & Light Timer, Ext. Fan Timer, Car To Lobby Flr

Figure 298: MISCELLANEOUS Menu – Fan & Light Timer, Ext. Fan Timer, Car To Lobby Flr

2.5.5.4 Miscellaneous – Arrival Update Time, Parking, OOS

Figure 299: MISCELLANEOUS Menu – Arrival Update Time, Parking, OOS

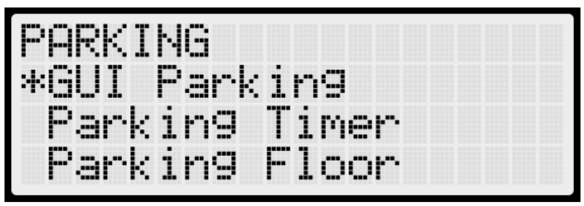

Figure 300: GUI PARKING Menu – GUI Parking, Parking Timer, Parking Floor

Figure 301: PARKING Menu – Parking Door Open

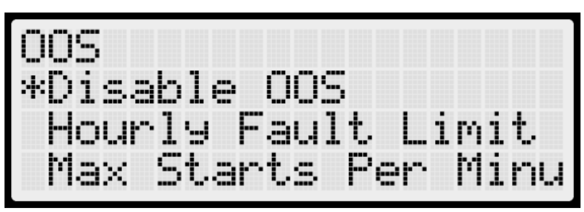

Figure 302: OOS Menu – Disable OOS, Hourly Fault Limit, Max Starts Per Minute

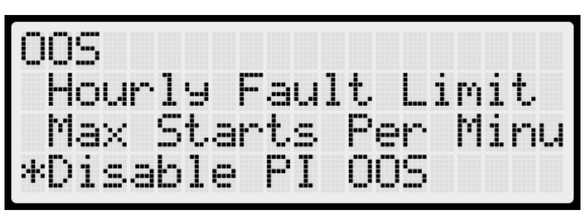

Figure 303: OOS Menu – Disable PI OOS

2.5.5.5 Miscellaneous – En. 3 Digit PI, Payment Passcode, Lockout Passcode

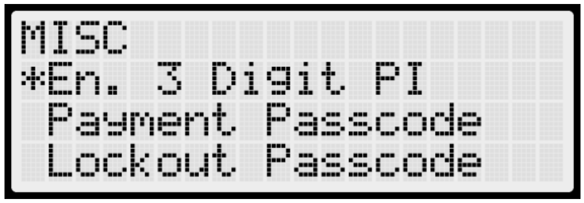

Figure 304: MISCELLANEOUS Menu – En. 3 Digit PI, Payment Passcode, Lockout Passcode

2.5.5.6 Miscellaneous – Dir. Counter Limit, Dir. Change Delay, Default

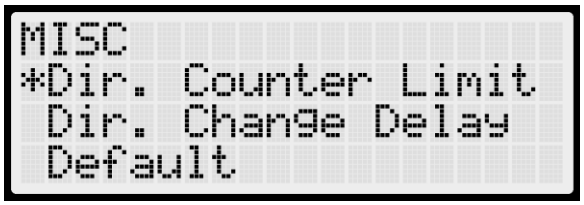

Figure 305: MISCELLANEOUS Menu – Dir. Counter Limit, Dir. Change Delay, Default

Figure 306: DEFAULT Menu – Default Floors, Default S-Curve, Default Run Timers

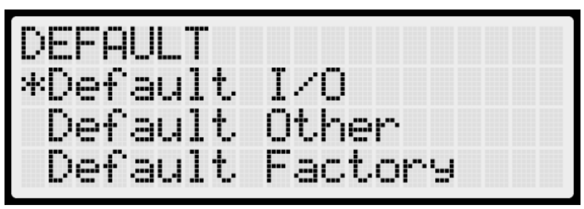

Figure 307: DEFAULT Menu – Default I/O, Default Other, Default Factory

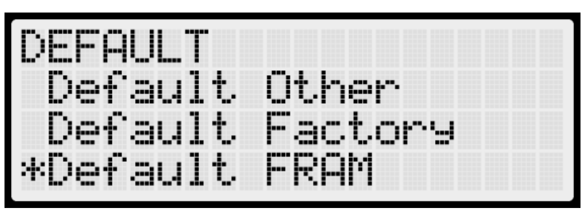

Figure 308: DEFAULT Menu – Default FRAM

2.5.5.7 NTS, PI Labels

Figure 309: NTS Menu – NTS Pos

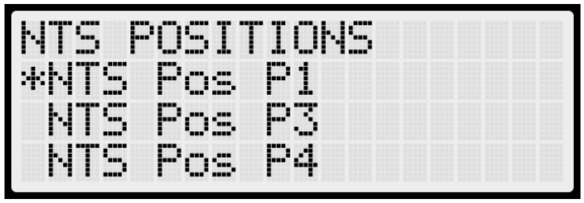

Figure 310: NTS POSITIONS Menu – NTS Pos P1

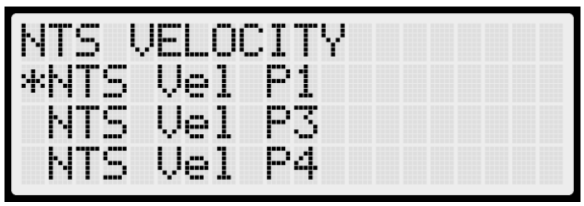

Figure 311: NTS VELOCITY Menu – NTS Vel P1

Figure 312: NTS VEL P1 Menu

Figure 313: SET PI LABEL Menu

2.5.5.8 Real-Time Clock, Load Weigher

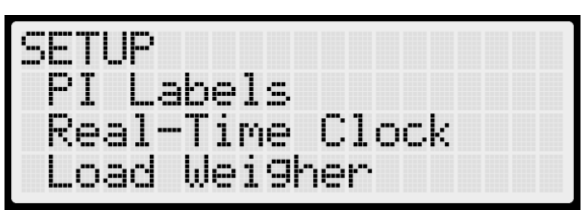

Figure 314: SETUP MENU – Real-Time Clock, Load Weigher

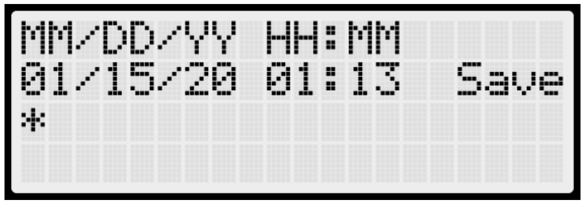

Figure 315: Real-Time Clock Menu

2.5.6 Group Setup, Flood

Figure 316: SETUP MENU – Group Setup, Flood

2.5.6.1 Group Setup – Group Car Index, Group Landing Offset, Dispatch Timeout

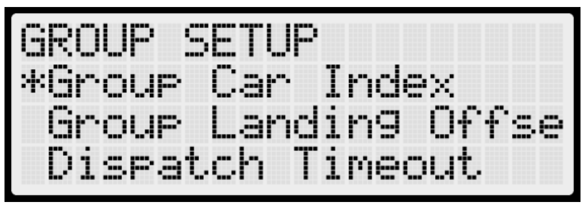

Figure 317: GROUP SETUP Menu – Group Car Index, Group Landing Offset, Dispatch Timeout

2.5.6.2 Group Setup – Dispatch Offline Timeout, XReg Cars, XReg Dest Timeout

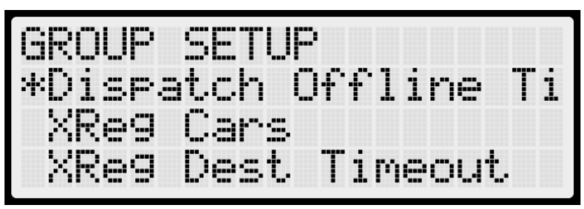

Figure 318: GROUP SETUP Menu – Dispatch Offline Timeout, XReg Cars, XReg Dest Timeout

2.5.6.3 Group Setup – XReg Destination Offline Timeout, Enable Hall Security, Hall Security Mask

Figure 319: GROUP SETUP Menu – XReg Destination Offline Timeout, Enable Hall Security, Hall Security Mask

Figure 320: HALL SECURITY MASK Menu

2.5.6.4 Group Setup – Hall Security Map, Hall Call Mask

Figure 321: GROUP SETUP Menu – Hall Security Map, Hall Call Mask

Figure 322: HALL SECURITY MAP FRONT Menu

Figure 323: HALL SECURITY MAP REAR Menu

Figure 324: HALL CALL MASK Menu

2.5.6.5 Group Setup – Swing Call Mask, Hall Medical Mask, Hall Medical Rear Door Mask

Figure 325: GROUP SETUP Menu – Swing Call Mask, Hall Medical Mask, Hall Medical Rear Door Mask

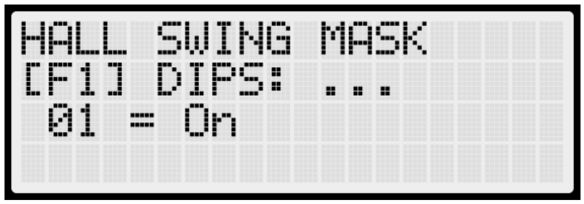

Figure 326: HALL SWING MASK Menu

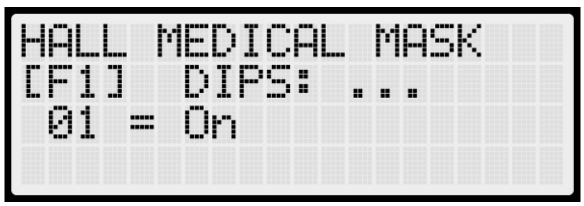

Figure 327: HALL MEDICAL MASK Menu

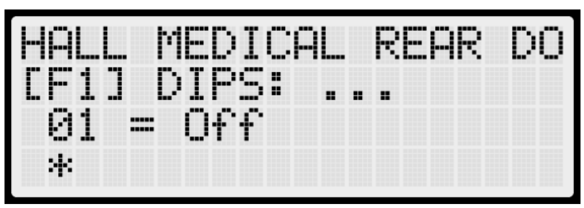

Figure 328: HALL MEDICAL REAR DOOR MASK Menu

2.5.6.6 Group Setup – Hall Rear Door Mask, Linked Hall Mask

Figure 329: GROUP SETUP Menu – Hall Rear Door Mask, Linked Hall Mask

Figure 330: HALL REAR DOOR MASK Menu

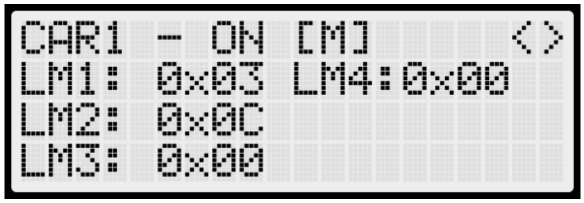

Figure 331: Linked Hall Mask Status

2.5.6.7 Flood – Number of Floors, Okay To Run, Override Fire

Figure 332: FLOOD Menu – Number of Floors, Okay To Run, Override Fire

2.5.7 EMS, Sabbath, Swing

Figure 333: SETUP MENU – EMS, Sabbath, Swing

2.5.7.1 EMS - AllowPh2WithoutPh1, Exit Ph2 Any Floor, Fire Overrides Ph1

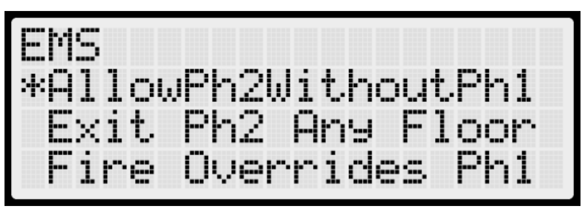

Figure 334: EMS Menu – AllowPh2WithoutPh1, Exit Ph2 Any Floor, Fire Overrides Ph1

2.5.7.2 EMS - Ph1 Exit Delay, Ph2 Exit Delay, Ph1 Recall Floor

Figure 335: EMS Menu – Ph1 Exit Delay, Ph2 Exit Delay, Ph1 Recall Floor

2.5.7.3 Sabbath – Key Enable Only, Timer Enable Only, Key or Timer Enable

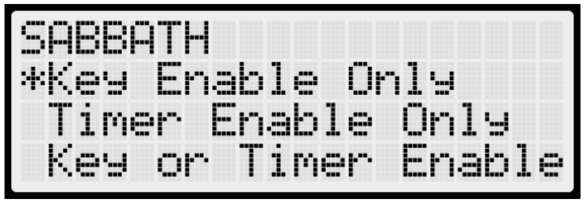

Figure 336: SABBATH Menu – Key Enable Only, Timer Enable Only, Key or Timer Enable

2.5.7.4 Sabbath – Friday Start Time, Saturday End Time, Door Dwell Timer

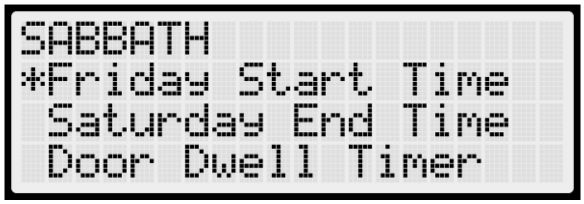

Figure 337: SABBATH Menu – Friday Start Time, Saturday End Time, Door Dwell Timer

2.5.7.5 Sabbath – Floors Opening, Destinations Up & Down

Figure 338: SABBATH Menu – Floors Opening, Destinations Up

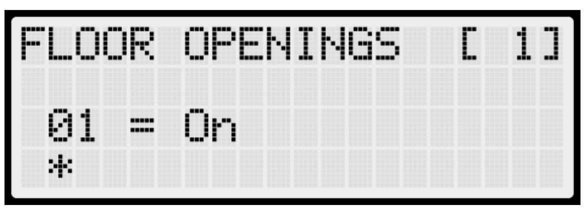

Figure 339: FLOOR OPENINGS (Front) Menu Example

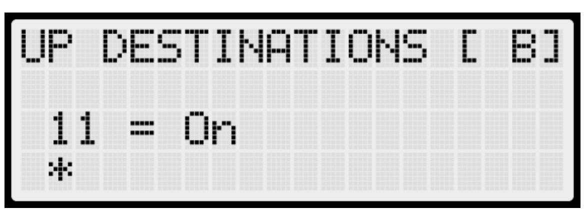

Figure 340: UP DESTINATIONS Menu

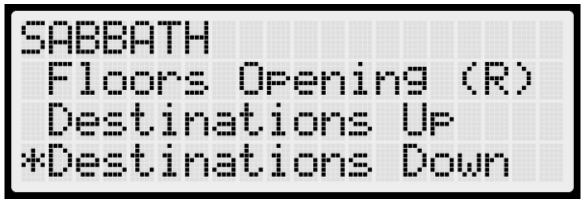

Figure 341: SABBATH Menu – Destinations Down

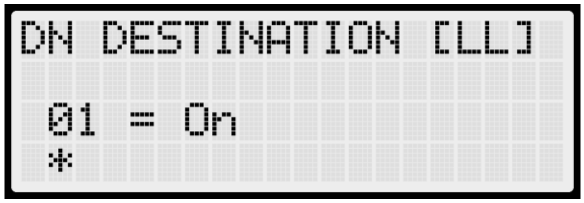

Figure 342: DOWN DESTINATION Menu

2.5.7.6 Swing – Calls Enable Swing, Stay In Group, Idle Timer

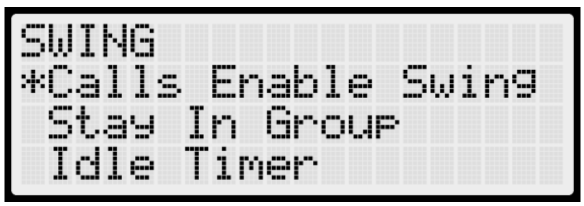

Figure 343: SWING Menu – Calls Enable Swing, Stay In Group, Idle Timer

2.5.8 Attendant, E-Power

Figure 344: SETUP MENU – Attendant, E-Power

2.5.8.1 Attendant – Dispatch Timeout, Buzzer Time

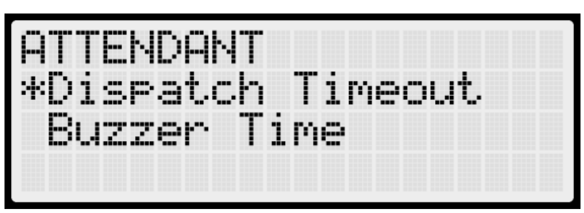

Figure 345: ATTENDANT Menu – Dispatch Timeout, Buzzer Time

2.5.8.2 E-Power – Num Active Cars, Priority Car, Pretransfer Stall

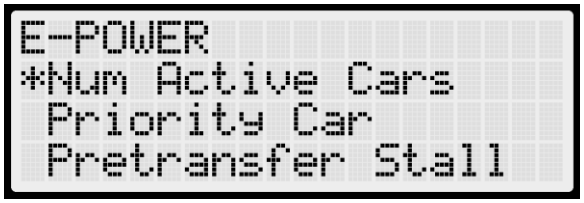

Figure 346: E–POWER Menu – Num Active Cars, Priority Car, Pretransfer Stall

2.5.9 Access Code

Figure 347: SETUP MENU – Access Code

2.5.9.1 Access Code – CCB Timer, Enable Front Doors, Enable Rear Doors

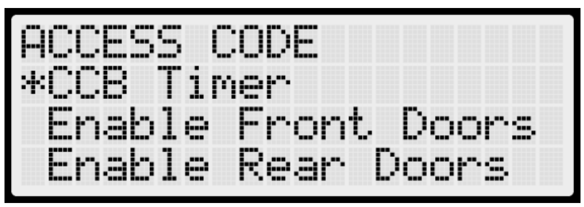

Figure 348: ACCESS CODE Menu – CCB Timer, Enable Front Doors, Enable Rear Doors

2.5.9.2 Access Code – Access Codes, Offset Floors

Figure 349: ACCESS CODE Menu – Access Codes, Offset Floors

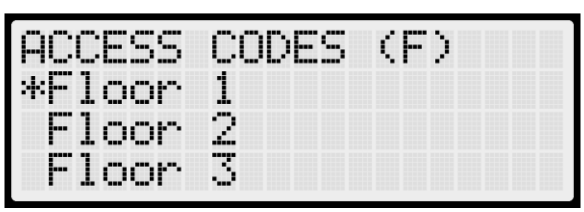

Figure 350: ACCESS CODES FRONT Menu Example – Floor Number

2.6 Debug

The DEBUG menu contains options used for system testing and diagnostics.

2.6.1 Enter Car Calls, Enter Hall Calls, Enter Door Command

Figure 351: DEBUG Menu – Enter Car Calls, Enter Hall Calls, Enter Door Command

Figure 352: ENTER CAR CALLS Menu – Front or Rear

Figure 353: ENTER CAR CALL Menu

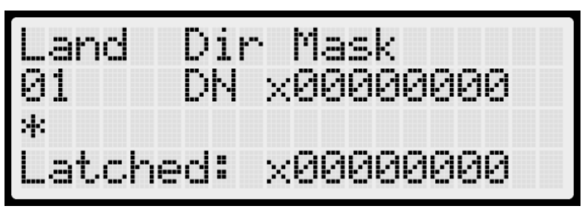

Figure 354: Hall Call Menu

Refer to the **System Configurations** for further details on the Hall Call menu.

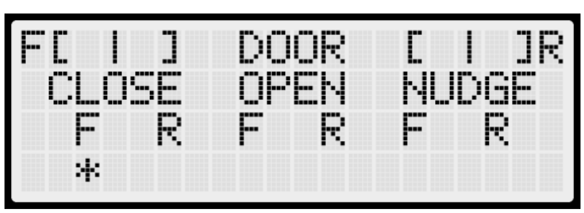

Figure 355: Enter Door Command Menu (Front and Rear Doors)

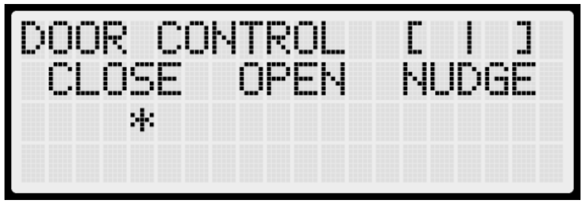

Figure 356: Enter Door Command Menu (Front Doors Only)

2.6.2 Edit Parameters, View Network Packet, View Group Packets

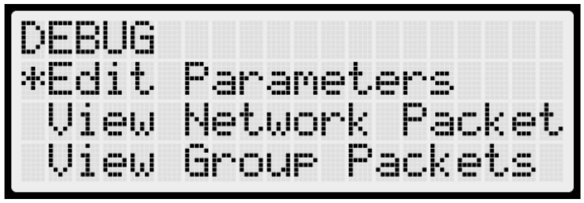

Figure 357: DEBUG Menu – Edit Parameters, View Network Packet, View Group Packets

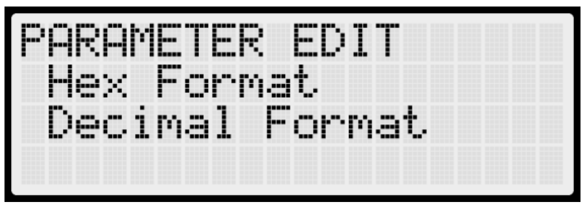

Figure 358: PARAMETER EDIT Menu – Hexadecimal or Decimal Format

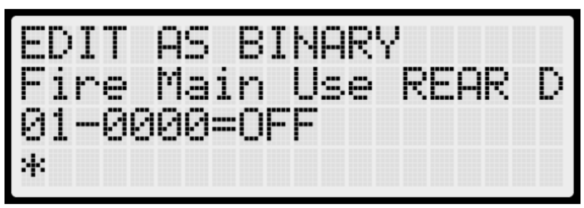

Figure 359: EDIT AS BINARY Menu

Figure 360: EDIT AS HEXADECIMAL Menu

Figure 361: EDIT AS DECIMAL Menu

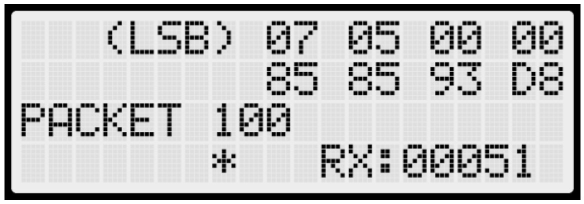

Figure 362: Network Packet

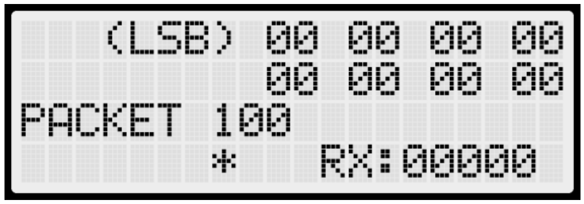

Figure 363: Group Packet

2.6.3 View Debug Data, Acceptance Test, EmergencyBitmap

Figure 364: DEBUG Menu – View Debug Data, Acceptance Test, EmergencyBitmap

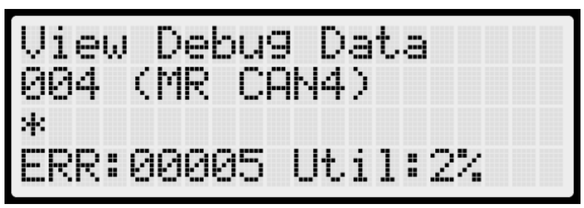

Figure 365: View Debug Data Menu

Figure 366: SELECT ACCEPTANCE TEST Menu

Figure 367: EMERGENY STATUS Menu

2.6.4 Module Statuses, Car Data, Car Destinations

Figure 368: DEBUG Menu – Module Statuses, Car Data, Car Destinations

2.6.4.1 Module Status – Motion Status, Pattern Data, Auto Status

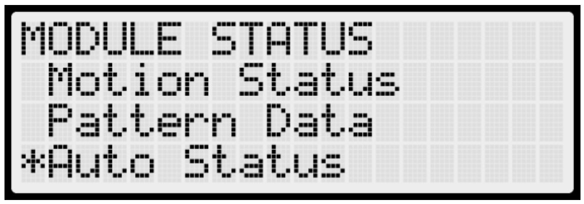

Figure 369: MODULE STATUS Menu – Motion Status, Pattern Data, Auto Status

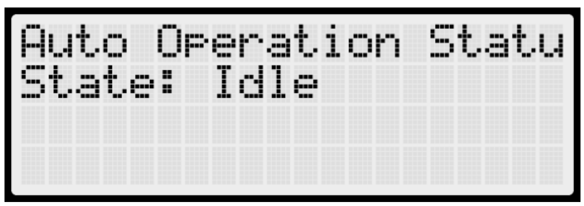

Figure 370: Auto Operation Status Menu

2.6.4.2 Module Status – Recall Status, Fire Status, Counterweight Status, Floor Learn Status

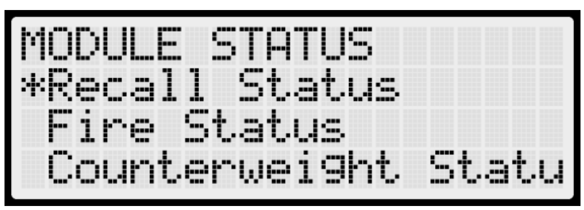

Figure 371: MODULE STATUS Menu – Recall Status, Fire Status, Counterweight Status

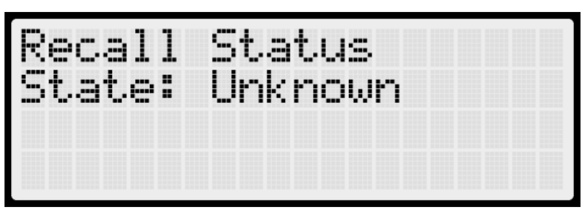

Figure 372: Recall Status Menu

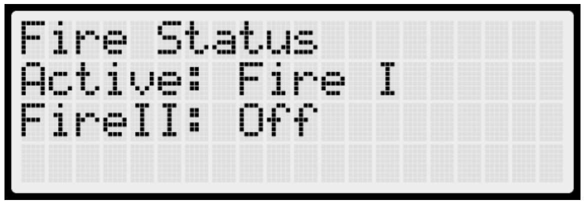

Figure 373: Fire Status Menu

Figure 374: Counterweight Status Menu

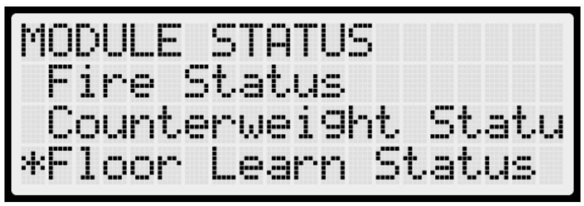

Figure 375: MODULE STATUS Menu – Floor Learn Status

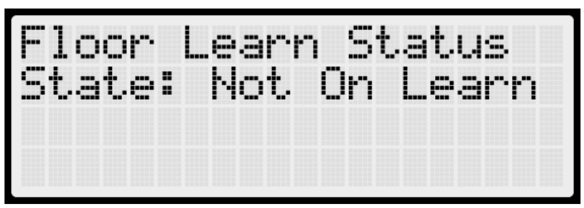

Figure 376: Floor Learn Status Menu

2.6.4.3 Car Data

Refer to the **System Configurations** for further details on the Car Data menu.

Figure 377: Car Data Overview Status

Figure 378: Hall Mask Status

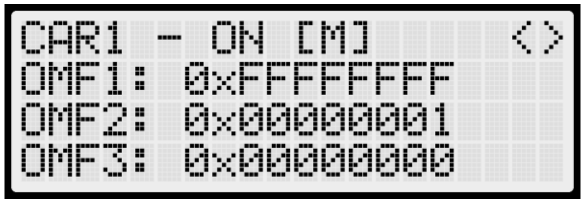

Figure 379: Front Opening Map Status

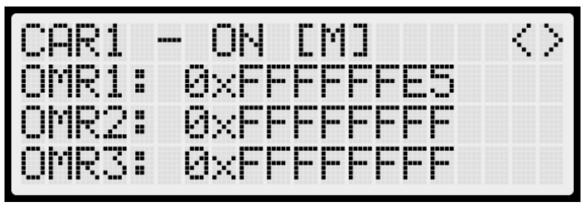

Figure 380: Rear Opening Map Status

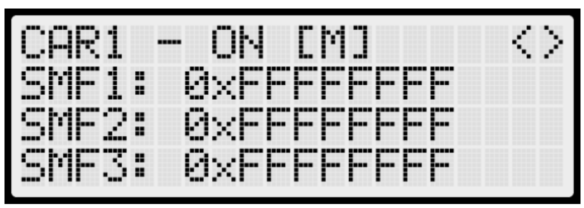

Figure 381: Front Security Map Status

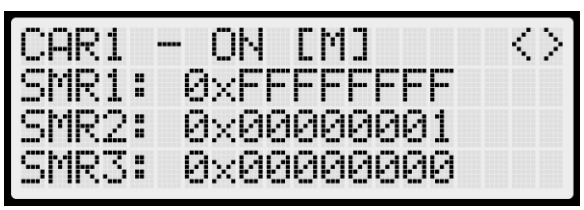

Figure 382: Rear Security Map Status

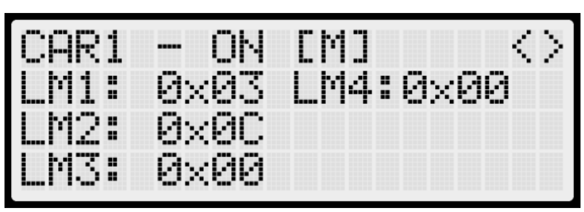

Figure 383: Linked Hall Mask Status

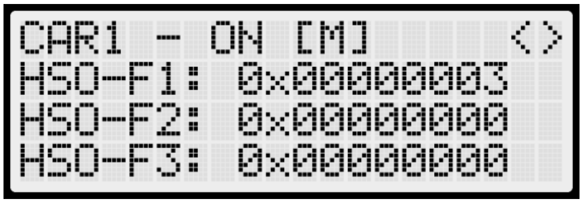

Figure 384: Front Hall Security Map Status

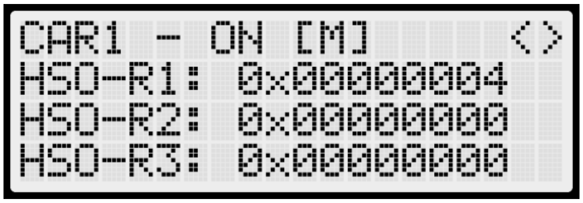

Figure 385: Rear Hall Security Map Status

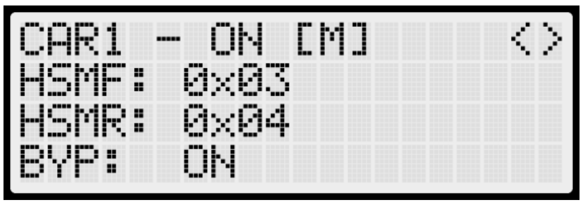

Figure 386: Front and Rear Hall Security Mask Status

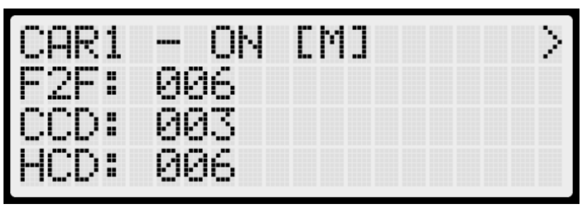

Figure 387: Dispatching Timers Status

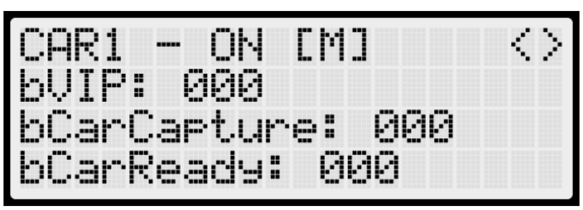

Figure 388: VIP Flags Status

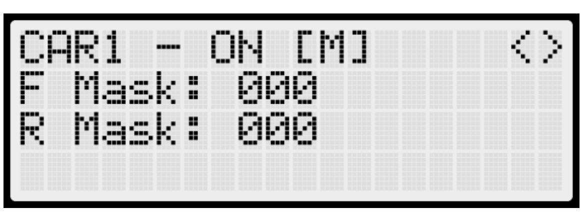

Figure 389: VIP Mask Status

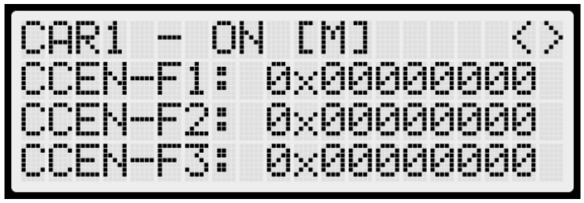

Figure 390: Front Car Call Enable Bitmap Status

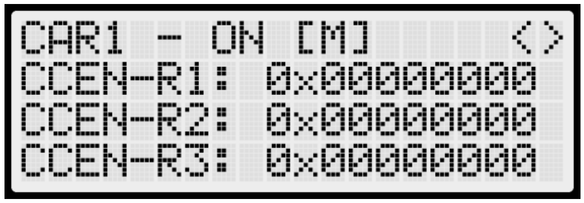

Figure 391: Rear Car Call Enable Bitmap Status Menu

Figure 392: Emergency Medical Call Mask and Landing

2.6.4.4 Car Destination

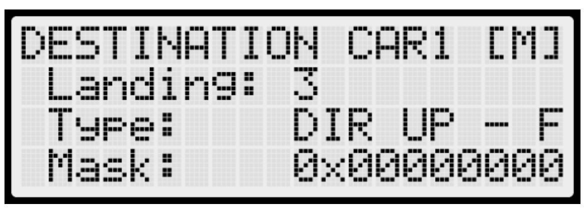

Figure 393: DESTINATION Menu

Refer to the **System Configurations** for further details on the Car Destination menu.

2.6.5 Run Counter, DebugRuns, XReg Destination

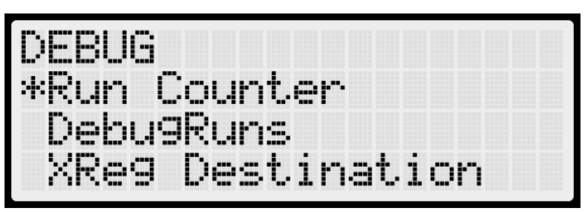

Figure 394: DEBUG Menu – Run Counter, DebugRuns, XReg Destination

2.6.5.1 Run Counter

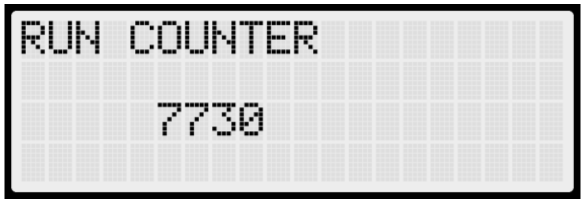

Figure 395: RUN COUNTER Menu

2.6.5.2 DebugRuns – Dwell Time, Terminal to Terminal, Floor To Floor

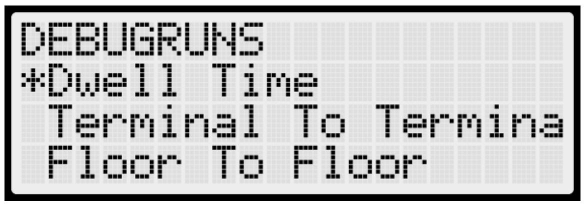

Figure 396: DEBUGRUNS Menu – Dwell Time, Terminal to Terminal, Floor To Floor

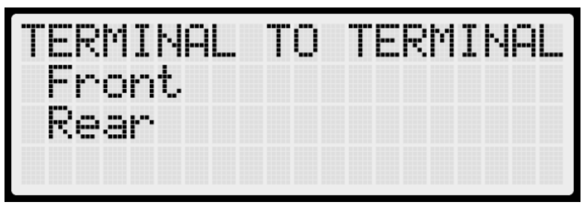

Figure 397: TERMINAL TO TERMINAL Menu – Front or Rear

Figure 398: FLOOR TO FLOOR Menu – Front or Rear

2.6.5.3 DebugRuns – Random, Hall Random Runs, Time & Counts, Clear Debug Runs

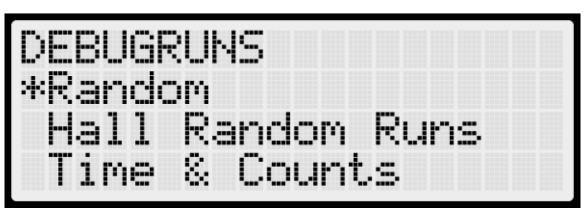

Figure 399: DEBUGRUNS Menu – Random, Hall Random Runs, Time & Counts

Figure 400: RANDOM Menu – Front or Rear

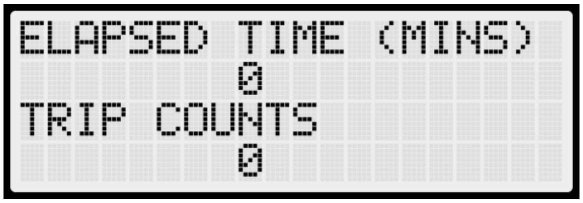

Figure 401: ELAPSED TIME & TRIP COUNTS Menu

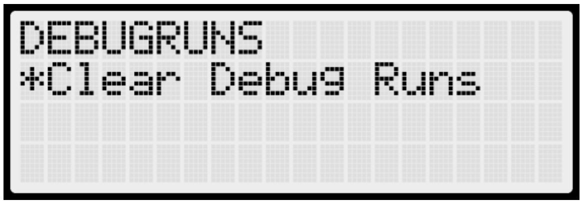

Figure 402: DEBUGRUNS Menu – Clear Debug Runs

2.6.5.4 XReg Destination

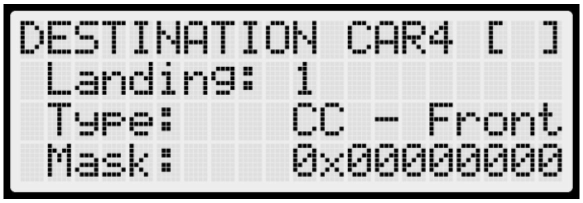

Figure 403: DESTINATION Menu

2.6.6 XReg Data, SH Dynamic Car Parking, SH Predictive Car Parking

Figure 404: DEBUG Menu – XReg Data, SH Dynamic Car Parking, SH Predictive Car Parking

Figure 405: Car Landing Door DG Menu

Figure 406: Pr Landing Door DG Menu

2.6.7 SH Remote Commands, View Module Data

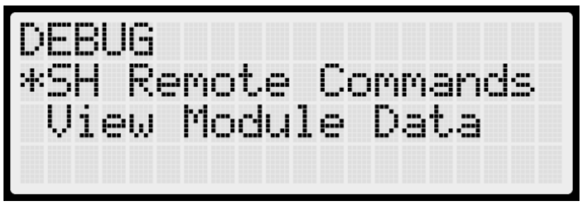

Figure 407: DEBUG Menu – SH Remote Commands, View Module Data

2.6.7.1 SH Remote Commands – CC Security, HC Security, Virtual Inputs

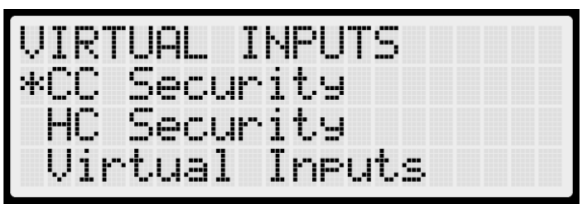

Figure 408: VIRTUAL INPUTS Menu – CC Security, HC Security, Virtual Inputs

Figure 409: SECURE CAR CALLS Menu – Front or Rear


```
Secure Car Front
FLR 1-32 :00000009
FLR 33-65:00000000
FLR 66-96:00000000
```

Figure 410: Secure Car Front Menu

```
Secure Car Rear
FLR 1-32 :00000000
FLR 33-64:00000000
FLR 65-96:00000000
```

Figure 411: Secure Car Rear Menu

```
SECURE HALL CALLS
 Front
 Rear
```

Figure 412: SECURE HALL CALLS Menu – Front or Rear

```
Secure Front HC
FLR 1-32 :00000011
FLR 33-64:00000000
FLR 65-96:00000000
```

Figure 413: Secure Front Hall Call Menu

```
Secure Rear HC
FLR 1-32 :00000001
FLR 33-65:00000010
FLR 66-96:00000000
```

Figure 414: Secure Rear Hall Call Menu

```
Virtual Input
[ ] Latch New CC
[ ] E-Power Manual
[ ] E-Power Select 1
```

Figure 415: Virtual Input Menu

2.6.7.2 SH Remote Commands – Recall Floor/Door, Door Command Landing

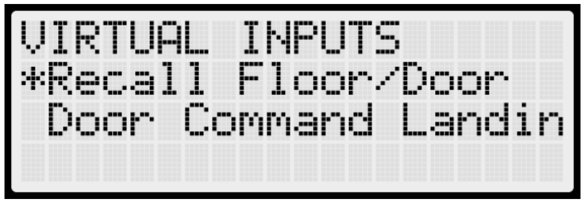

Figure 416: VIRTUAL INPUTS Menu – Recall Floor/Door, Door Command Landing

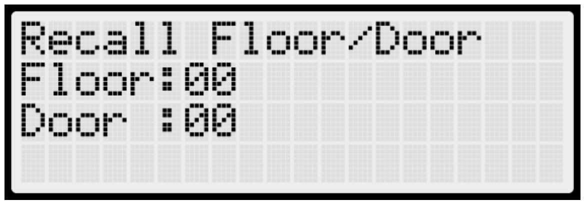

Figure 417: Recall Floor/Door Menu

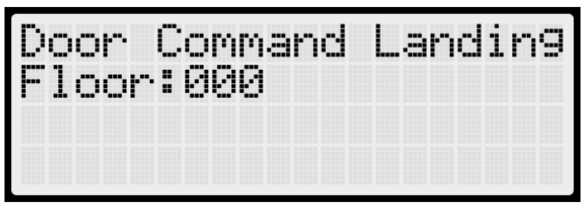

Figure 418: Door Command Landing Menu

2.6.7.3 View Module Data

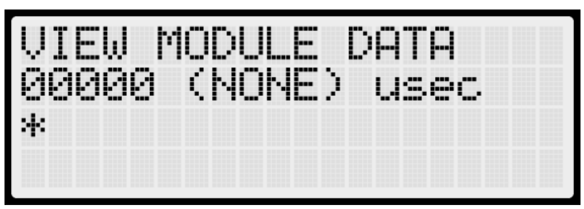

Figure 419: VIEW MODULE DATA Menu

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LIST OF ABBREVIATIONS & REFERENCES

List of Abbreviations

ADA	America's with Disabilities Act
AN	Aux Network
BN	Brake Network
CCB	Car Call Button
COP	Car Operating Panel
CT	Car Top
DC	Door Close
DO	Door Open
DOL	Door Open Limit
DZ	Door Zone
EMS	Emergency Medical Services
GN	Group Network
GSW	Gate Switch
GUI	Graphical User Interface
HA	Hoistway Access
LWD	Load Weighing Device
MR	Machine Room
NTS	Normal Terminal Stop
NTSD	Normal Terminal Stopping Device
ODL	Overspeed Debounce Limit
OMF	Opening Map Front
OMR	Opening Map Rear
OOS	Out Of Service
PI	Position Indicator
SFP	Safety Processor
SMF	Security Mask Front
SMR	Security Mask Rear
SRU	Smartrise Universal
UI	User Interface

References

Smartrise's C4 Traction Manuals	https://www.smartrise.us/material/2/c4-material
Smartrise's C4 Traction Training Videos	https://www.smartrise.us/lectures/5/c4-training-videos

