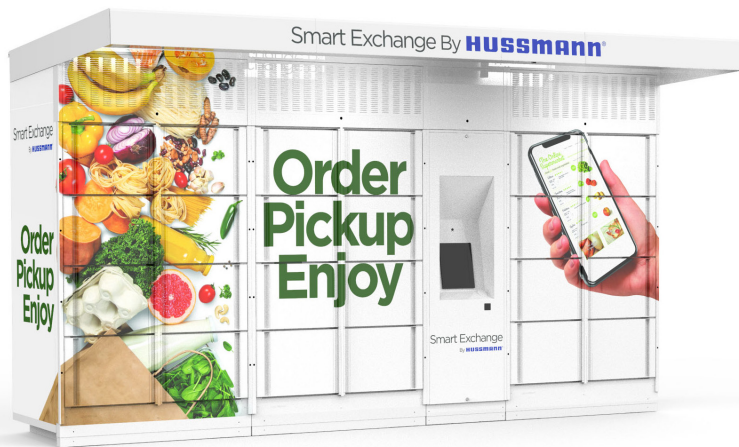


Low, Medium & Ambient Temperature  
Lockers with Control Kiosk



Outdoor Locker Assembly



Indoor Locker Assembly

## IMPORTANT

See separate instructions (PN 3139727) for  
Field Software Commissioning.

# SMART EXCHANGE

## Installation & Operation Manual

Shipped With Data Sheets

P/N 3110238\_B

March 2021

Spanish P/N 3110240

French P/N 3131231



## BEFORE YOU BEGIN

Read the safety information completely and carefully.



The precautions and use of the procedures described herein are intended to use the locker assembly correctly and safely. Please be sure to comply with the precautions described in this manual to protect you and others from possible harm. The definitions below detail and clarify the magnitude and urgency of potential harm, damage and problems arising from misuse of the locker assembly. Relative to their potential danger, the definitions are divided into four parts as defined by ANSI Z535 Series.

### ANSI Z535.5 DEFINITIONS



• **DANGER** – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.



• **WARNING** – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.



• **CAUTION** – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.

• **NOTICE** – *Not related to personal injury* – Indicates[s] situations, which if not avoided, could result in damage to the locker assembly.

\*\*\*\*\*

### REVISION HISTORY

#### REVISION B

1. Revised instructions for the outdoor canopy frame, cameras and lighting assembly; Added definitions of terminology and updated throughout the manual; Added Appendix

#### REVISION A


1. .... Original issue.

### DEFINITIONS OF TERMINOLOGY

The definitions below are a description of the terminology used throughout this installation and operation manual.

- Refrigerated module: refers to refrigerated ambient, medium and low temperature lockers with a refrigeration system
- Locker: refers to the small, metal compartment(s) located in dry or refrigerated modules
- Locker assembly: refers to dry ambient, refrigerated ambient, medium temperature and/or low temperature modules assembled together in a lineup
- Kiosk or control kiosk: refers to the electronic component module


## CAUTION

 This manual was written in accordance with originally perscribed components that is subject to change. Hussmann reserves the right to change all or parts of the locker assembly for future stores such as, but not limited to, controllers, refrigeration and electrical specifications and requirements.


### Personal Protection Equipment (PPE)


Only qualified personnel should install and service the locker assembly and / or components. Personal Protection Equipment (PPE) is required whenever servicing any components of the locker assembly. Wear safety glasses, gloves, protective boots or shoes, long pants, and a long-sleeve shirt when working with the locker assembly. Observe all precautions on tags, stickers, labels and literature attached to the locker assembly.





 Contractors shall strictly adhere to specifications provided by the Engineer of Record (EOR), as well as US Environmental Protection Agency regulations, OSHA regulations, and all other federal, state and local codes. This work should only be done by qualified, licensed contractors. There are numerous hazards, not limited to, but including: burns due to high temperatures, high pressures, toxic substances, electrical arcs and shocks, very heavy weights with specific lift points and structural constraints, food and product damage or contamination, public safety, noise, and possible environmental damage.

## WARNING

 — **LOCK OUT / TAG OUT** —  
To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as controllers, electrical panels, condensers, lights, fans, and heaters.

 **Proper Field Wiring and Grounding Required!**  
Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE, SHOCK** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

 Be sure to place the locker assembly on solid ground and take measures to prevent it from tipping over. If the ground is not solid or the place is not appropriate, it may lead to damage to the locker assembly and personnel injury.

 The locker assembly shall not be installed in a place where flammable or volatile materials are stored. Otherwise, it may cause an explosion or fire. It shall not be installed in areas with acid or corrosive gases. Otherwise, it will cause leakage or electric shock due to reduced insulation class arising from the corrosion of electrical products.



## WARNING



Please use a junction box with a ground wire to prevent electric shock. If the power supply is not grounded, contact an electrician, otherwise it may cause electric shock.



Do not connect the grounding wire to the grounding wire of gas pipe, water pipe, lightning conductor and telephone; otherwise, it will lead to electric shock.



Please strictly observe the rated voltage frequency on the label of this product; otherwise it will cause fire or electric shock.



Do not store volatile or flammable materials in or on top of this device; otherwise it may cause explosion or fire.



Do not insert metal objects such as nails or wires into the vents or gaps in the device; otherwise, it may result in electric shock or injury due to actuation of the drive components.



Before performing any repair or maintenance, be sure to disconnect the power at the main disconnect, otherwise it may lead to electric shock or personnel injury



Do not touch electrical parts (power plug, etc.) or operate the switch with wet hands, otherwise it will cause electric shock.



It is forbidden to pour water directly onto or inside of the locker assembly or to place a container containing liquid on the locker assembly. Liquid spills will reduce the degree of insulation and cause electric leakage or electric shock.



Please do not knot, tamper, crush or destroy the power cord (if used or supplied).



Users are not allowed to disassemble, repair or modify this product. Otherwise, it may result in fire or personal injury and void the warranty.



Before moving this product, disconnect the power supply, and be sure not to damage the wiring, the power cord, or wire whip. Otherwise it may cause electric shock or fire.



Dust accumulation or poor connection will cause heating or fire.



If the product is unused for a long time in an unsupervised area, please ensure that children cannot approach the product when doors are not closed completely and locked (Otherwise, children may climb and be trapped in the cabinet).



The product disassembles and scrap shall be conducted by professionals. If it is placed without management, it may trap children.



The power supply conforming to the specification on the serial plate of this product may serves as a separate dedicated power supply (equipped with an isolator).



Do not preserve non-airtight acidic or alkaline samples. It will corrode the box inner walls and electrical components.



When powering off or restarting the device after power is turned off, you need to check the product conditions. Changes in the settings may damage the saved items.



When the overheating alarm is caused by poor heat dissipation of the product, please first transfer the items in the cabinet to other suitable containers for storage, and then inform the professional maintenance service personnel.



When moving the product, be careful not to tip the device over to prevent damage or personal injury.



When this product has an emergency failure, please do not repair without authorization, and promptly notify the professional maintenance technicians.



When the product is not used for a long time, disconnect the power supply to prevent electric shock, leakage or fire caused by aging insulation.



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## **APPENDIX - (CORELINK FACTORY SETPOINTS)**

## **WARRANTY**

## Thank you for purchasing the Smart Exchange Food Locker!

Before you begin, please read the installation instructions completely and carefully.

Husmann Corporation shall not provide any safety guarantee for the use, purpose and method beyond this instruction manual. The content within this instruction manual is expected to be complete and correct. If you find any errors or omissions, please contact our business department or distributor.

No individual or organization may reproduce any part of this instruction manual in any form without the prior written consent of Husmann. This product is equipped with components including a variety of security and alarm functions, a remote alarm system and automatic temperature recording devices.

The lockers are manufactured to protect products in the cabinet. Please contact your local sales representative or visit [www.husmann.com](http://www.husmann.com) for more information. Husmann is responsible for product failure from meeting the requirements of fixed conditions, and shall not be responsible for sample and reagent losses restored in product.

For questions about camera kit installation instructions contact the Husmann Support Center (800)-592-2060.

For camera operation and specifications, see instruction manual from the camera manufacturer.

### ENVIRONMENTAL CONCERNS

Husmann recommends responsible handling of refrigerants that contain Hydrogen, Fluorine and Carbon (HFCs). Only certified technicians may handle these refrigerants. All technicians must be aware and follow the requirements set forth by the Federal Clean Air Act (Section 608) for any service procedure being performed that involves refrigerant.

Additionally, some states have other requirements that must be adhered to for responsible management of refrigerants.

### SERVICING

Component parts shall be replaced with like components. Service is to be performed by factory authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service. Contact your Husmann representative to arrange servicing.



This warning does not mean that Husmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a 'right to know' law than a pure product safety law. When used as designed, Husmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.

# INSTALLATION

## SPECIAL INSTALLATION REQUIREMENTS

**Consult with the appropriate structural design professional for special installation requirements in your area for conditions not covered by this design. See below.**

- Sites where an active fault could cause the ground to rupture at the surface
- Sites defined as Site Class F in ASCE 7-16, Chapter 20 (poor or liquefiable soil). These sites require a site response analysis to be performed by a Geotechnical Engineer in order to determine the  $S_d$  value, per ASCE 7-16 Section 11.4.7
- Sites where the refrigerated modules are installed above ground level
- Mountaintop sites in Hawaii where the effective design wind speed (per ASCE 7-16 Figure 26.5-2B) exceeds 180 mph
- Sites in Florida or Southeast Louisiana where the locker assembly has an unobstructed view of an ocean or large lake and / or wind speeds right on the coast/beach can exceed the rated capacity of the locker assembly's anchorage
- Sites where both  $K_{zt} > 1.5$  and  $V > 145$  mph per ASCE 7-16, Section 26.8. This would be sites where the locker assembly will be sitting on the top of, or face of, any terrain feature (hill, ridge, escarpment, etc.) with a slope greater than 1:10 in any of the following regions. For reference, 1:10 slope is about the maximum possible for pushing wheelchairs or riding bicycles.
- Florida south of Orlando
- Within 50 miles of the Gulf of Mexico
- North Carolina or South Carolina within 10 miles of the ocean
- Installations in hurricane zones

## UL LISTING

The refrigerated modules are safety listed with UL-471 and sanitation listed to NSF-7. The control kiosk is safety certified to UL-60950-1 & UL-60950-22. Proper installation is required to maintain this listing.

## FEDERAL / STATE REGULATION

Locker assemblies at the time manufactured, meet all federal and state/ provincial regulations. Proper installation is required to ensure these standards are maintained. A key must be used to remove the louver panel or kiosk panel See the serial plate.

## SERIAL PLATE LOCATION

Serial plates are located for each module behind the top panel just above the locker cabinets. The serial plate contains information about the specific model and its operating parameters. **A key is needed to remove the front louvre panel to access the serial plate.**



Figure 1-1 Serial Plate Location

## LOCKER ASSEMBLY LOCATION

Locker assemblies are designed for temporarily holding products in both indoor and outdoor environments.

### NOTICE

**A 4-inch unobstructed space between the rear of the locker assembly and the nearest structure must be maintained for proper air circulation.**

While locker assemblies are designed to work in the harshest conditions, below is a list of things to consider when choosing outdoor placement location:

- Exposure to sunlight
- Exposure to strong wind currents
- Exposure to rapid temperature changes
- Exposure to areas inclined to flooding

## PRODUCT TEMPERATURE

Product should always be maintained at proper temperature. This means that from the time the product is received, through receiving, transportation and storage, the temperature of the product must be controlled to maximize product life.

### ATTENTION

Locker assembly must operate for 24 hours before loading product.

Regularly check temperatures.  
Do not break the cold chain.

Keep products in cooler or freezer before loading into the locker assembly.

Medium temperature refrigerated modules are designed for **ONLY** loading pre-chilled products. Low temperature refrigerated modules are designed for **ONLY** loading frozen products.



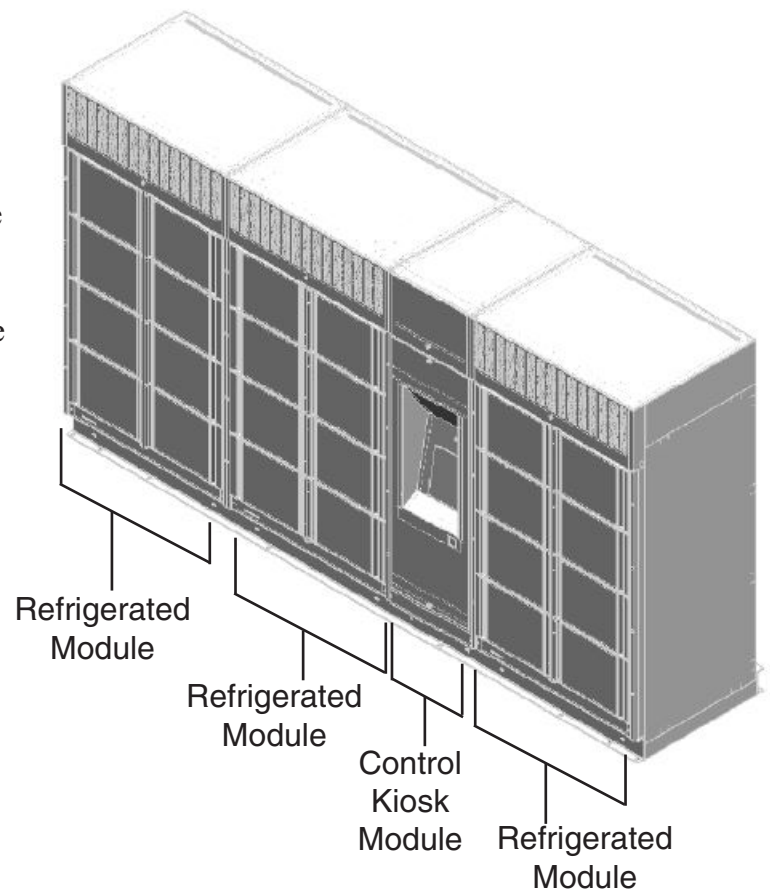
## QR CODE

Refrigerated modules have a QR code near the serial plate, which is located above locker cabinets of each module. Once you scan the QR code, all of the information about that the locker assembly will be at your fingertips. Links to installation manuals and data sheets, as well as a link for ordering replacement parts from Hussmann's Performance Parts Website.

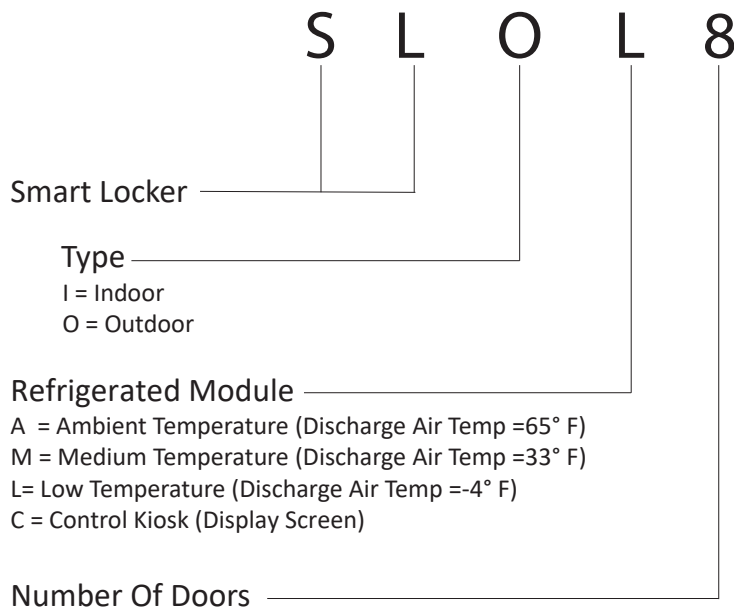
## REFRIGERATED MODULE NAMING CONVENTION

Smart Exchange locker assembly follow the naming convention listed below.

Model numbers are listed on the serial plate for each module.



## SMART EXCHANGE MODEL KEY



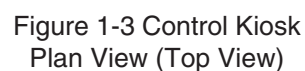
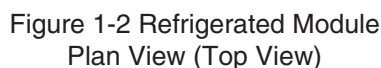


The illustration below is an example of the plan view used to locate and place the anchor bolts in their proper locations.

## NOTICE

**Modules may be configured differently. Consult Hussmann for specific requirements.**

Anchor Bolt Locations shown with  $\oplus$



## SHIPPING DAMAGE

Control kiosk and refrigerated modules should be thoroughly examined for shipping damage before and during unloading.

Refrigerated modules have been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

### Apparent Loss or Damage

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim.

### Concealed Loss or Damage

When loss or damage is not apparent until after refrigerated modules are uncrated, retain all packing materials and submit a written request to the carrier for inspection, within 15 days.

## SHIPPING SKID

Each refrigerated module and control kiosk (module) is shipped on a skid to protect the base and to make positioning easier.

Do not remove the shipping skid until the refrigerated modules are near the final location. The shipping skid is fastened to the refrigerated module's base with bolts. Remove the bolts in order to remove the skid. Once the skid is removed, modules must be lifted — **NOT PUSHED** — to reposition.

## UNLOADING FROM TRUCK / TRAILER

Unless specifically arranged otherwise, it is the customer's responsibility to arrange the off-loading, unpacking, and moving of the locker assembly to the final site location. Improper handling may cause damage when unloading. A forklift is recommended. Pallet jacks can also be helpful in moving a refrigerated module to its permanent location.

## UNLOADING INDOOR REFRIGERATED MODULES

Indoor refrigerated modules can be tilted over on the compressor side in order to move the refrigerated modules into the store if shipped with a tilt-rider kit. **The refrigeration system can not be started until after 24 hours after it has been tilted over on its' side. Damage to the refrigeration system may result if the refrigerated modules are started up sooner.**

Do not start refrigeration until 24 hours after condensing units were righted after being tilted or tipped over.



## WARNING

**Use extreme caution when lifting or moving refrigerated modules. Tall objects may be prone to tip over. Always remain at a safe distance to avoid severe injury or death.**

1. Unstrap and remove packaging from the separately shipped items for the canopy.
2. Lift each refrigerated and control kiosk module from the back side. Position the forks under base at the center until forklift carriage is flush against the module's base.

It may be necessary to cut or partially remove the shipping skid in order to access the base of each module.

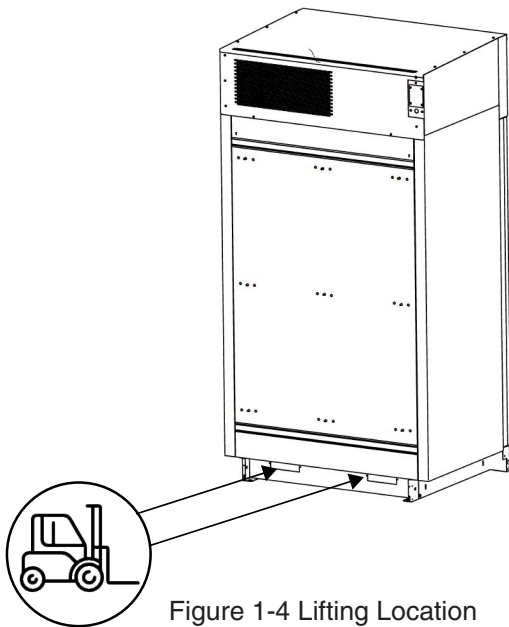


Figure 1-4 Lifting Location

3. Once the forks are completely underneath, the refrigerated module can be slowly lifted. Make sure the module remains stable throughout the lifting process.

When moving the refrigerated modules, keep distance between it and the ground to a minimum. It may also be helpful to secure the refrigerated module to the forks via rope or straps.

4. The refrigerated module may be moved at its end to help position to the final location. Start removing the shipping skid at bolt hole locations around the locker assembly.

## REFRIGERATED MODULE LEVELING

Line the refrigerated module and control kiosk up in the order needed (only place in level locations that are solidly supported).

Using a 4 ft. level, ensure level from front to back and back to front. Level modules by all four corners. Place shims underneath the base as needed in order to adjust and make the refrigerated module or control kiosk level.

## WARNING

Proper Field Wiring and Grounding Required! Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

## MECHANICAL INSTALLATION

### FIT & SECURE REFRIGERATED MODULES TOGETHER

Refrigerated modules or control kiosks are bolted together at rear-rail supports as shown below.

Use bolt, washer and nut to fasten and secure together at the rear of refrigerated modules.



Figure 1-5a Bolt, Washer, and Nut for Rear Base Bracket

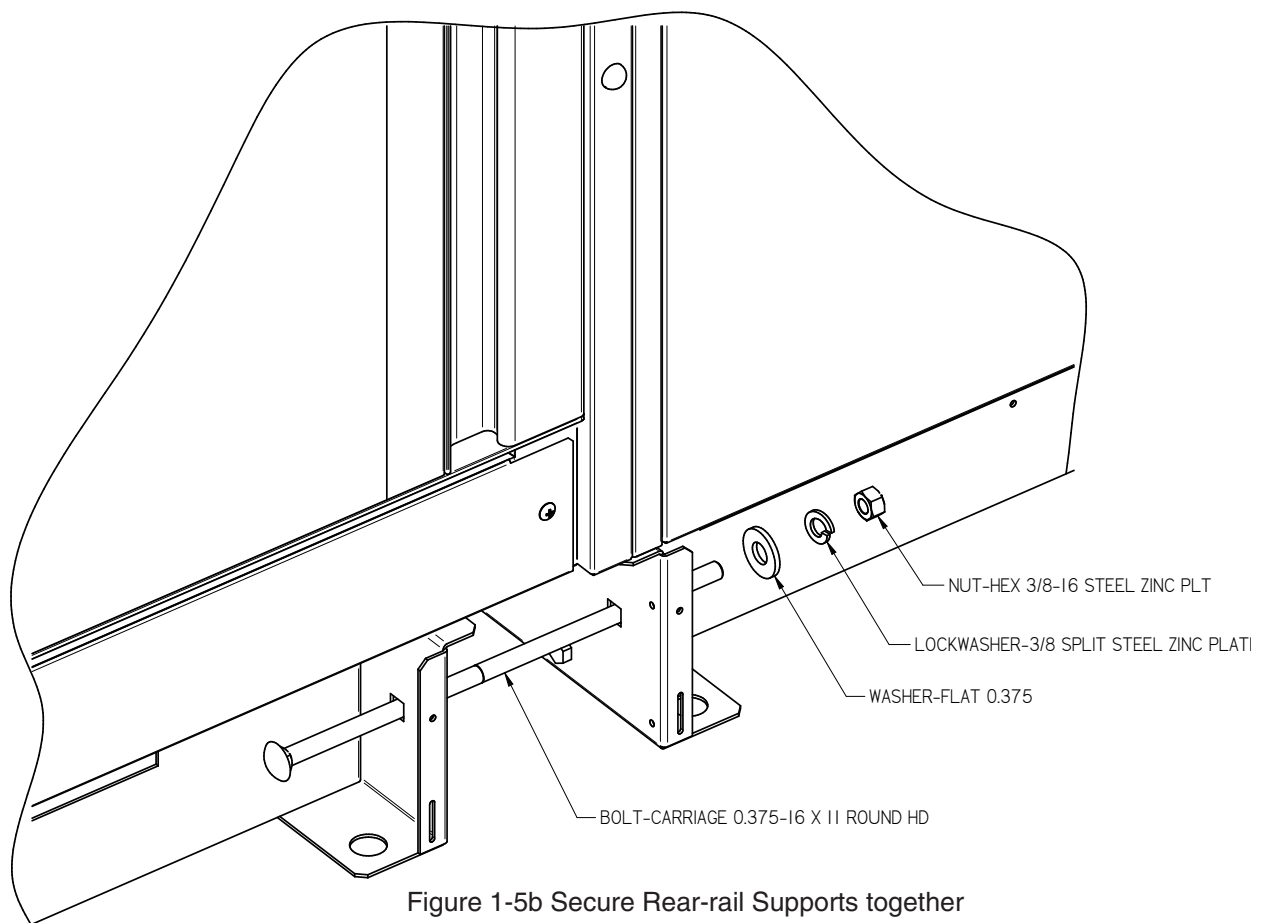


Figure 1-5b Secure Rear-rail Supports together

## INSTALL CONCRETE WEDGE ANCHORS

### *Front Concrete Anchors:*

1. Drill 5/8" diameter holes in the concrete 5 inches deep. Holes may be drilled at an angle.

### *Rear Concrete Anchors:*

2. Drive the 5/8" x 4 1/2" anchor into the concrete and tighten the nut.



Figure 1-6a Concrete Wedge Anchor

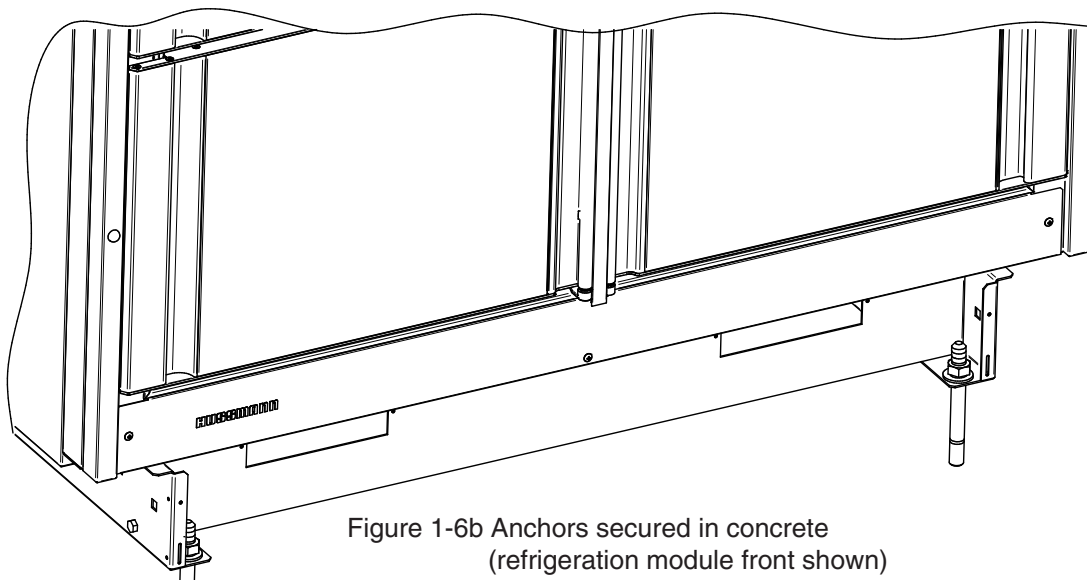


Figure 1-6b Anchors secured in concrete  
(refrigeration module front shown)

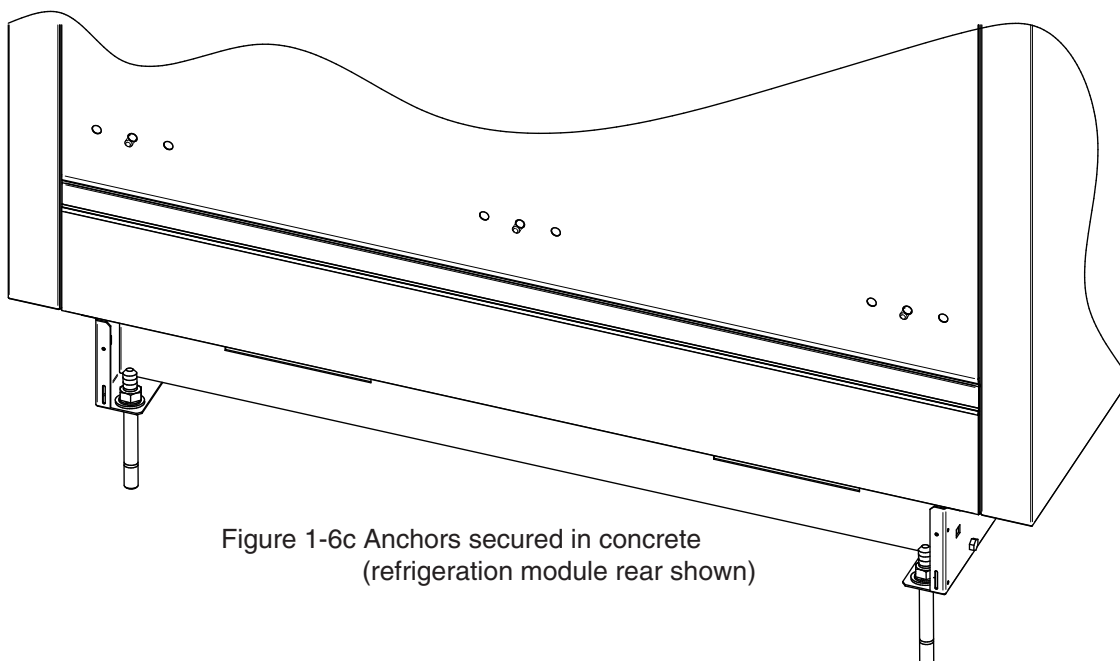


Figure 1-6c Anchors secured in concrete  
(refrigeration module rear shown)



## INSTALLING CANOPY FRAME ASSEMBLY (FOR OUTDOOR LOCKER ASSEMBLIES)

1. Assemble the canopy frame. Control kiosk canopy installation is similar. See Figure 1-7a below. The frame will be installed on the refrigerated module or control kiosk in the next step.

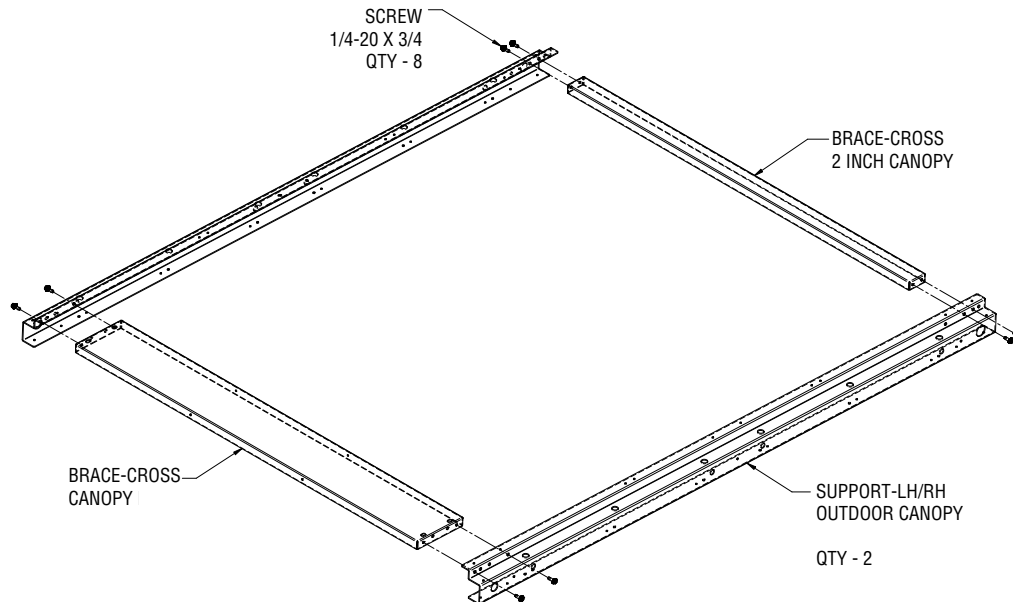


Figure 1-7a Top View of Canopy Frame Assembly  
(Kiosk Canopy Frame Assembly is similar.)

2. Fasten Canopy Frame Assembly to module(s) as shown in Figure 1-7b.

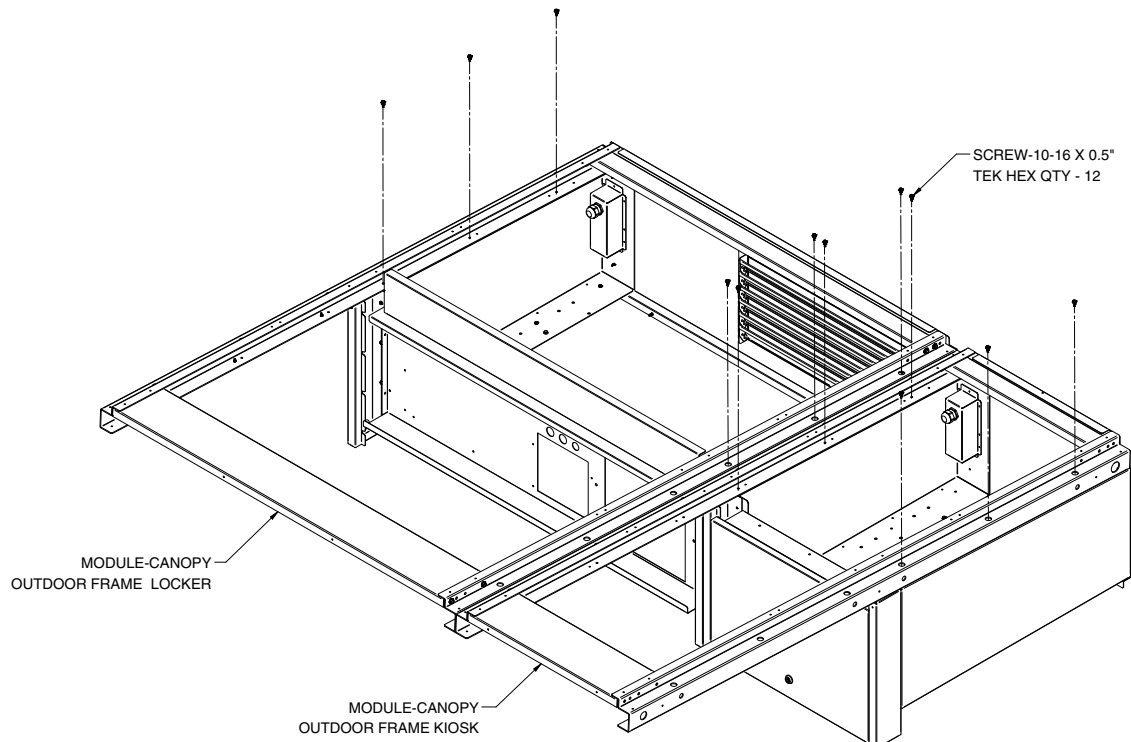


Figure 1-7b Top View of Canopy Frames attached to Refrigerated Module and Control Kiosk

## JOINING CANOPY MODULES TOGETHER

(refrigerated modules or control kiosk)

1. Fasten canopy supports together at the joining locations shown in Figure 1-8b.

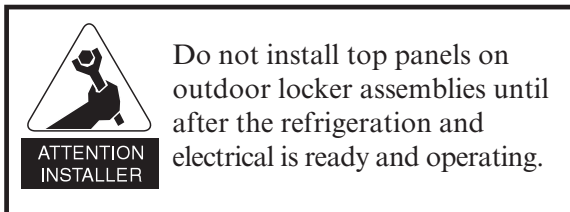


Figure 1-8a Attach Canopy Frames

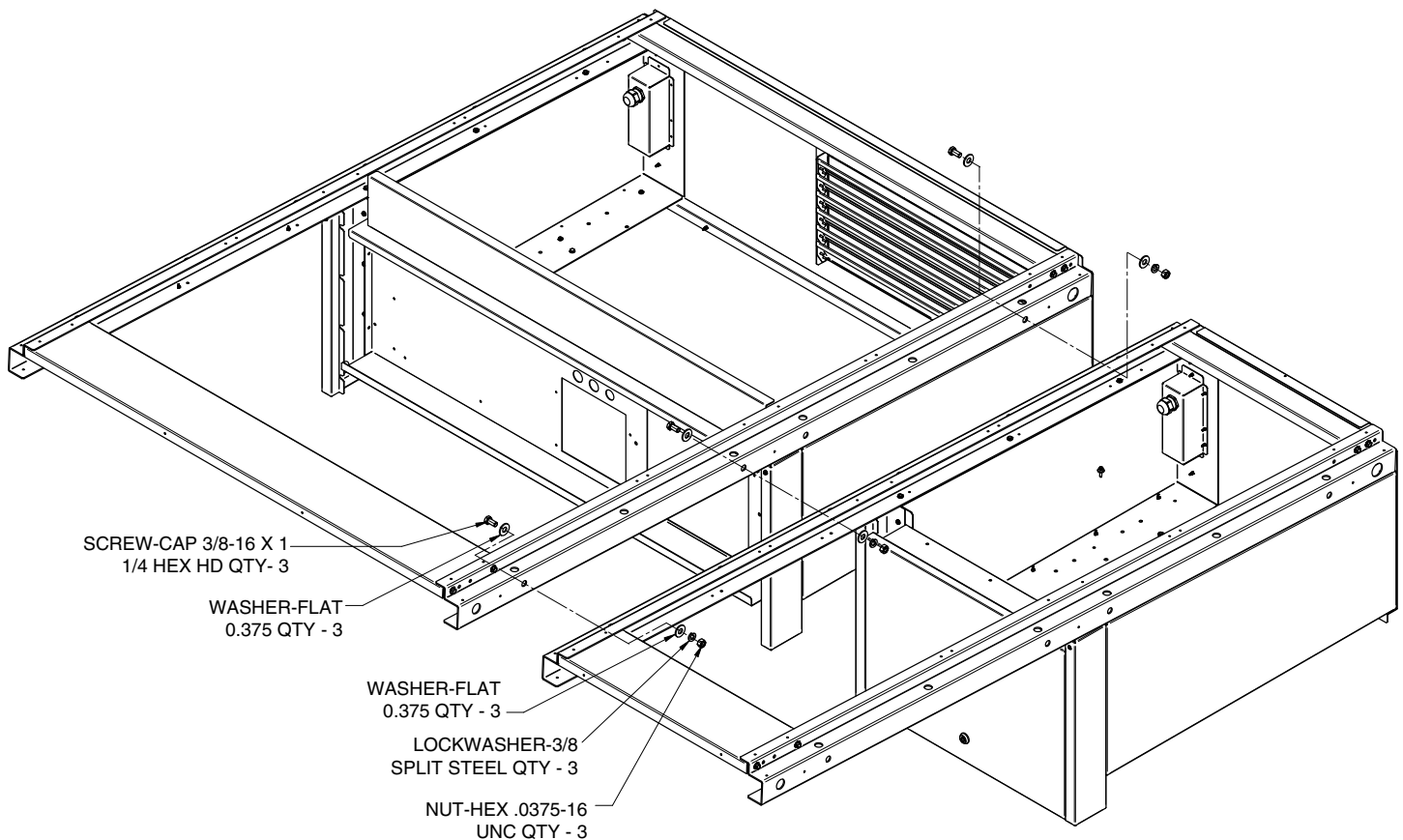
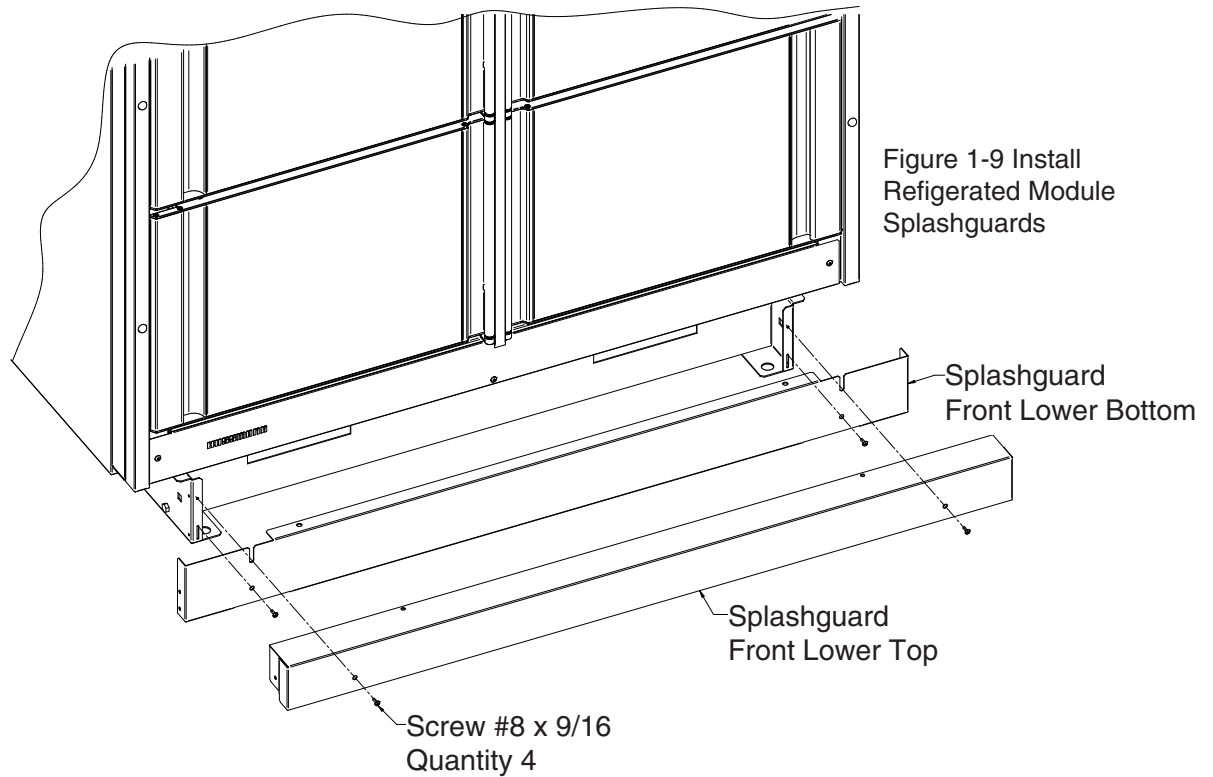


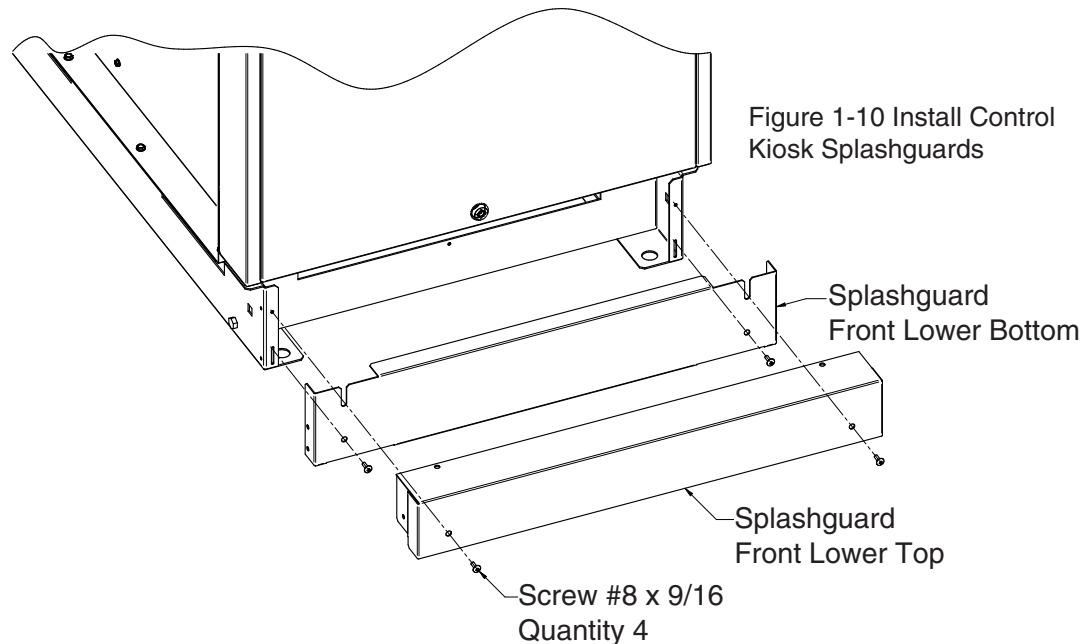
Figure 1-8b Attach Outdoor Canopy Frames - Refrigerated Module to Kiosk

## INSTALL REFRIGERATED MODULE SPLASHGUARDS

1. Fasten with #8 sheet metal screws as shown in Figure 1-9 / 1-10.

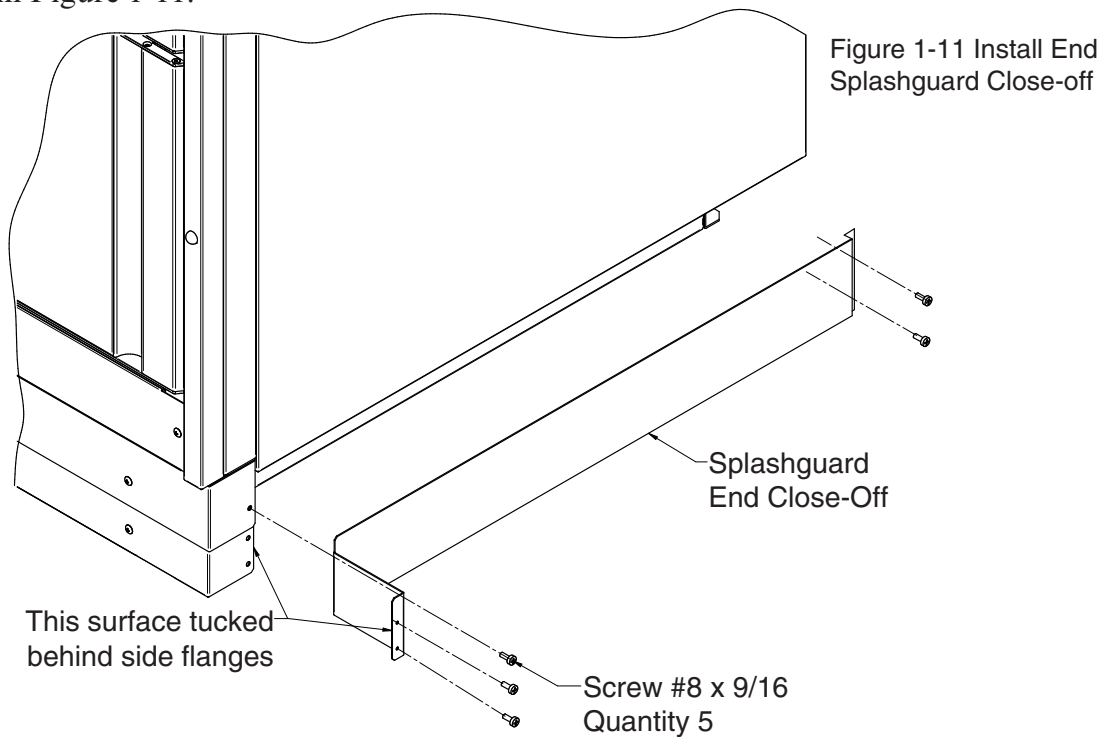


## INSTALLING CONTROL KIOSK SPLASHGUARDS



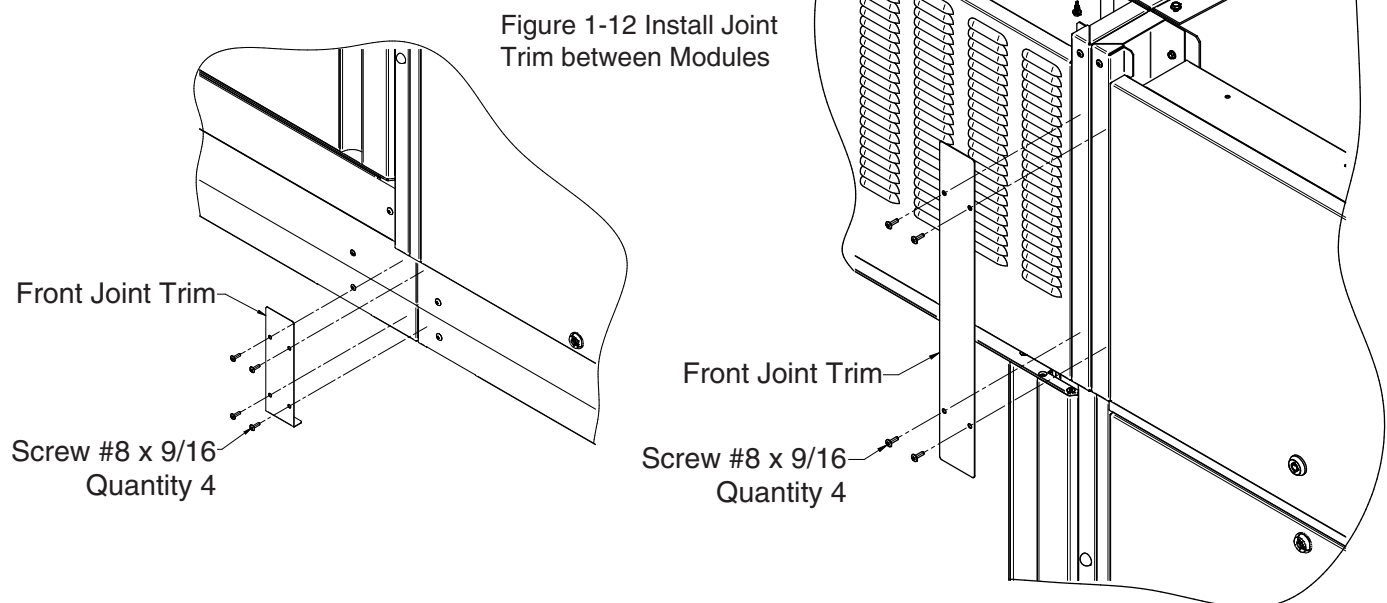
## INSTALL END SPLASHGUARD CLOSE-OFF

1. Install side splashguard with four screws as shown in Figure 1-11.



## INSTALL JOINT TRIM

1. Add the joint trim between the refrigerated modules. Front joint trim can be shortened by cutting as needed.



# FIELD CONNECTIONS

## ELECTRICAL

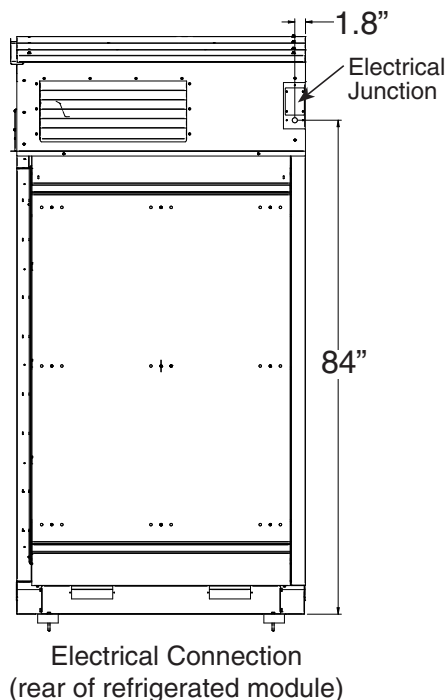
The locker assembly is electronically controlled by the CoreLink Controller. Refer to the serial plate or data sheets for electrical information. Field wiring is done at the junction box located at the rear of each refrigerated module.

## FIELD WIRING

Field wiring must be sized for component amperes stamped on the serial plate. Actual ampere draw may be less than specified.

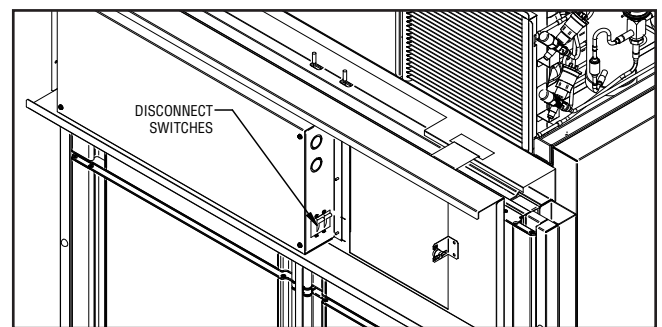
It is the responsibility of the installing contractor(s) to make connections and ensure local codes are followed. See wiring diagram and circuit requirements for each refrigerated module before making any electrical connections.

**ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES.**



## MAIN DISCONNECT SWITCH

Each refrigerated module is equipped with a dedicated main disconnect switch/breaker. The switch will interrupt power to the entire refrigerated module. The switch is located on the right side of the refrigerated module control panels (when facing them), and on the inside electrical panel behind the display screen of the kiosk. The image below shows the disconnect switches.



Disconnect Switches

## ⚠ WARNING

Proper Field Wiring and Grounding Required! Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

## ETHERNET

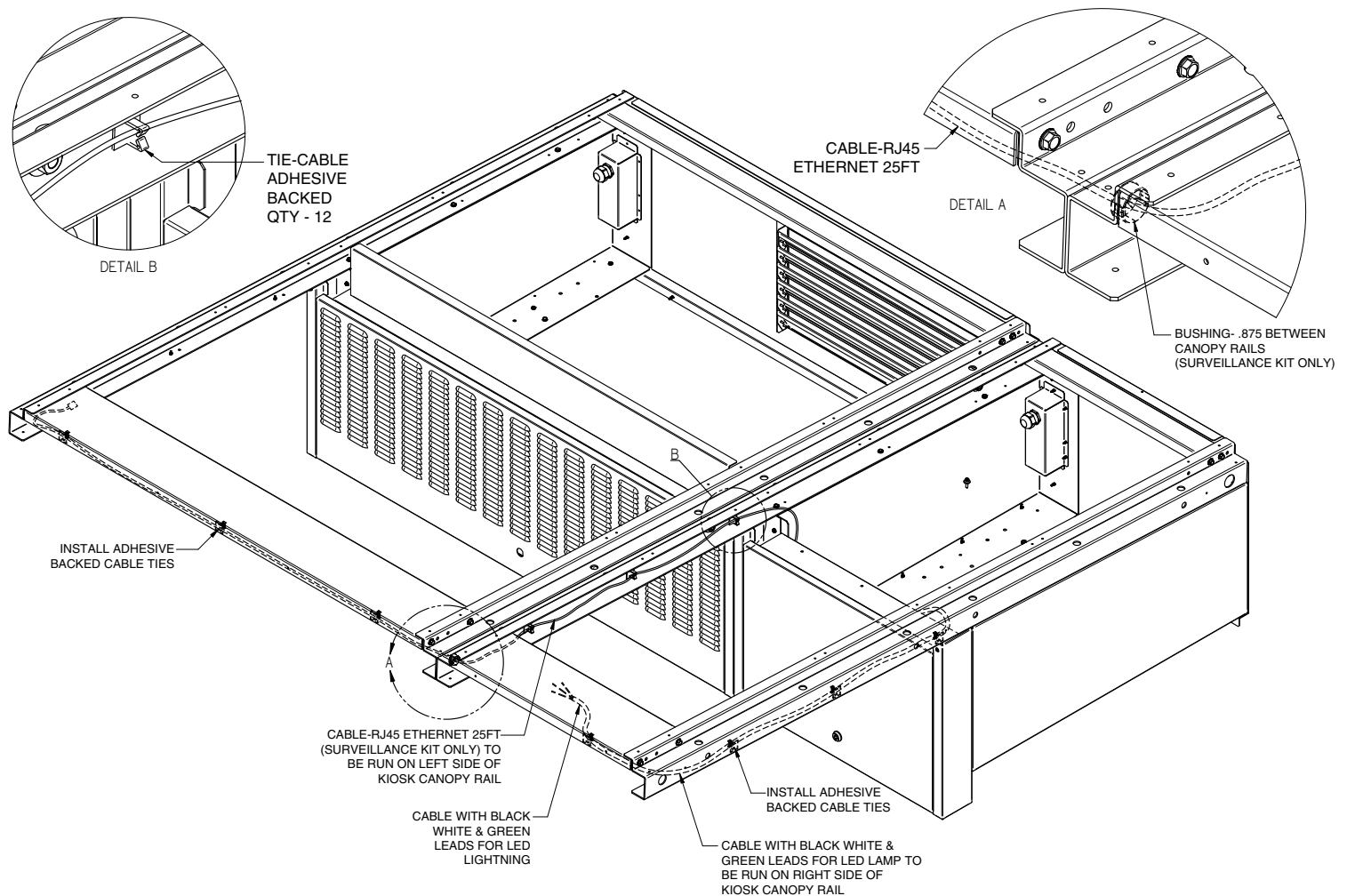
Connectivity to the Internet is provided by the customer building or using a 4G cellular card. Please see Steps in this Section to connect Ethernet to control kiosk via the Sophos device.

**For software and software component remote troubleshooting, call 1-866-386-9398.**



## ELECTRICAL WIRING ROUTES OUTDOOR REFRIGERATED MODULE & KIOSK

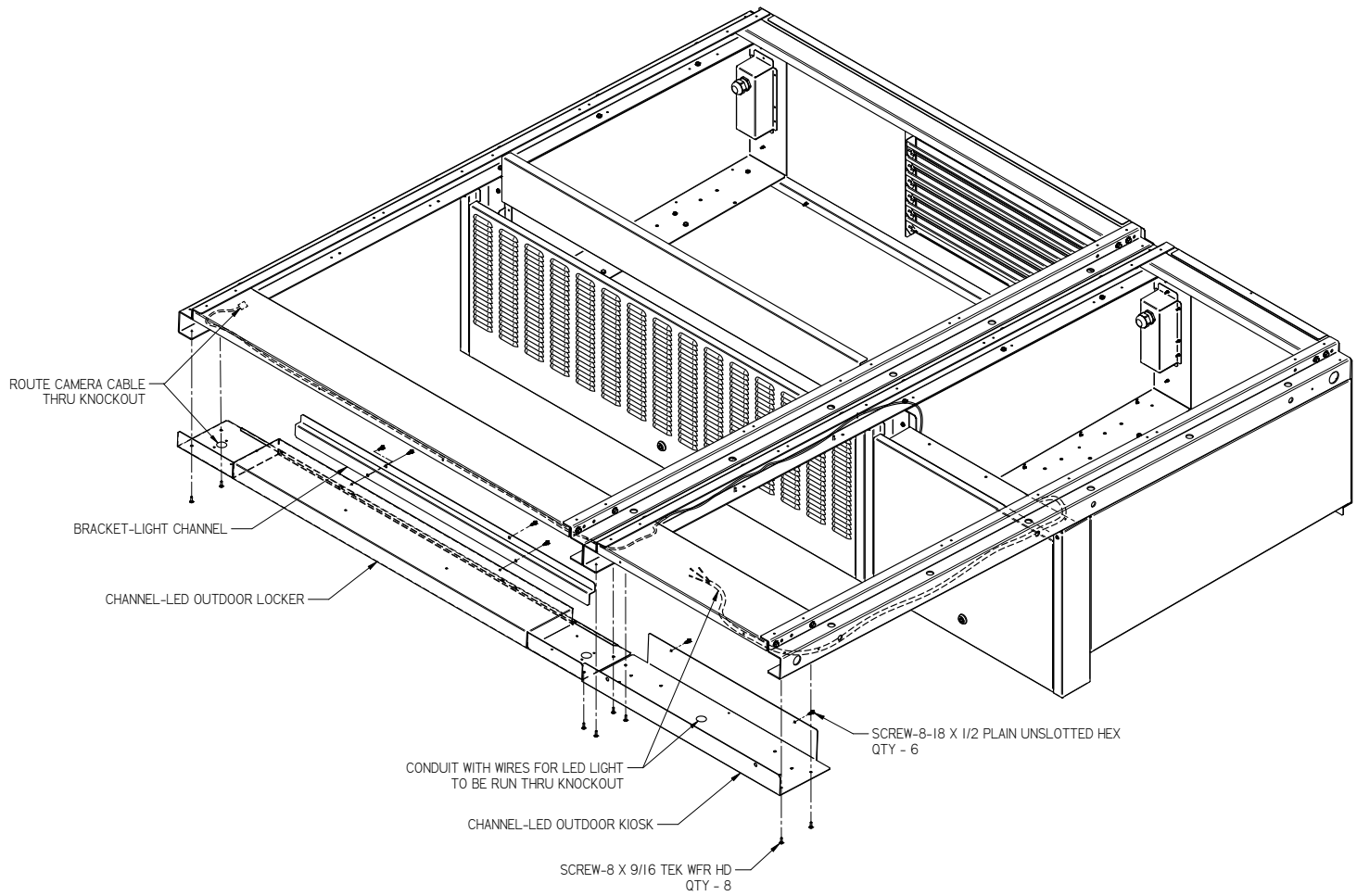
1. Route leads for LED lighting and security cameras.



Field Module Wiring (Canopy)

## LED LIGHT CHANNEL INSTALLATION

1. Fasten light channel to canopy as shown in the detail below.



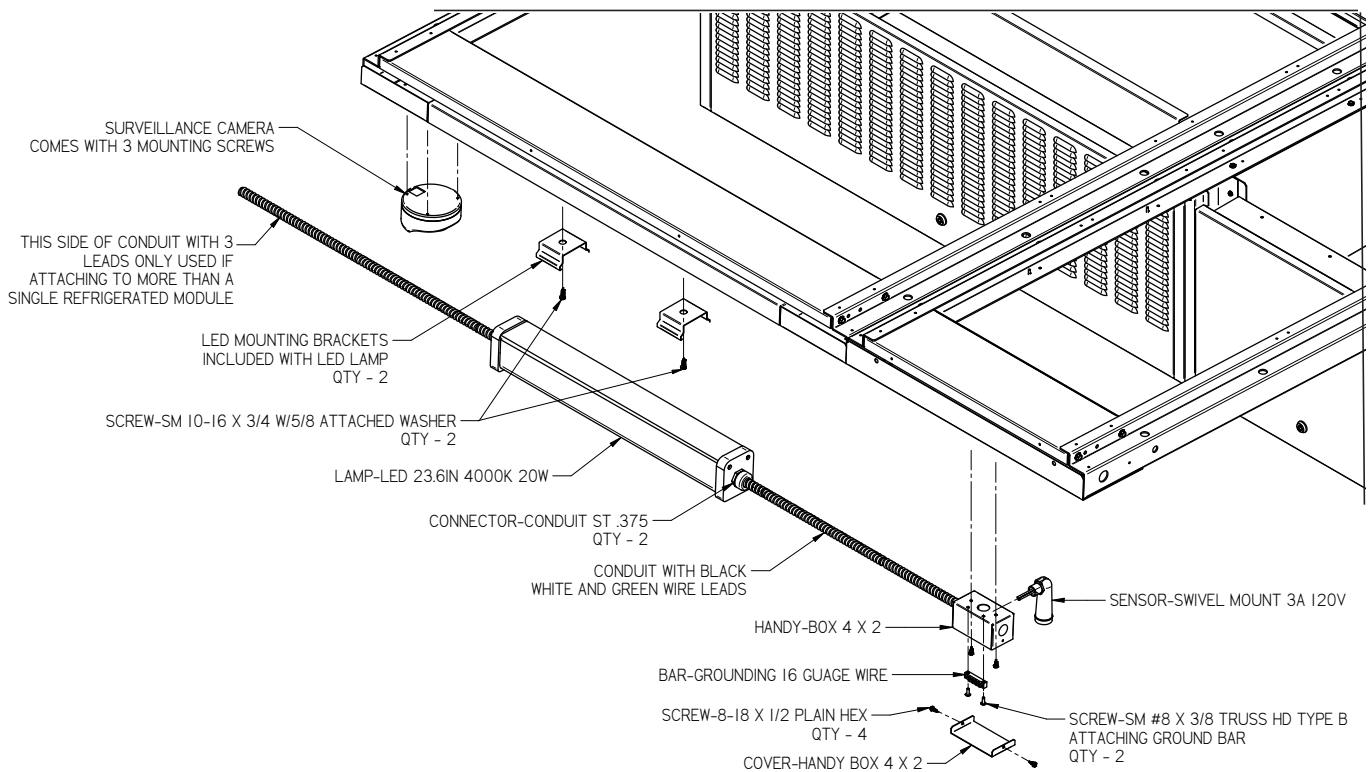
Light Channel Installation

## INSTALLING LIGHTING

- One overhead LED fixture per refrigerated or kiosk module; no interior lighting.
- Conduit runs between each LED fixture and module to a handy box at control kiosk canopy, then back to kiosk electrical box.
- Handy box has a dusk-to-dawn sensor that must be installed.

### *Removing Security Camera enclosure:*

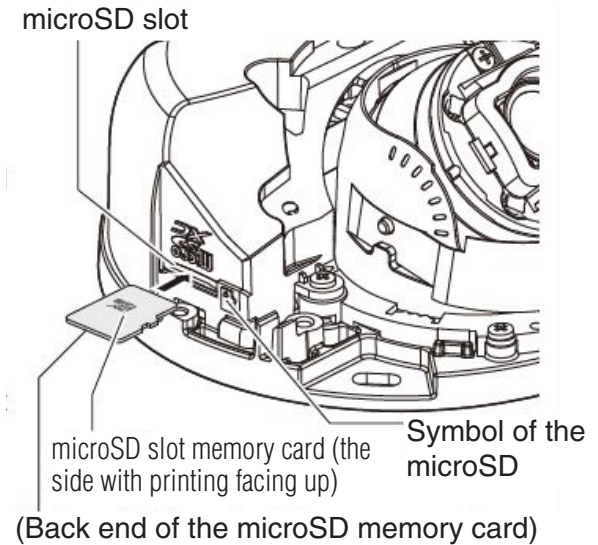
1. Loosen the enclosure screws in (3) places using the bit accessory.
2. Hold both sides of the enclosure to remove it.
3. Remove the packing from the inside of the dome cover.



LED Lighting and Camera Installation

*Inserting a microSD memory card*

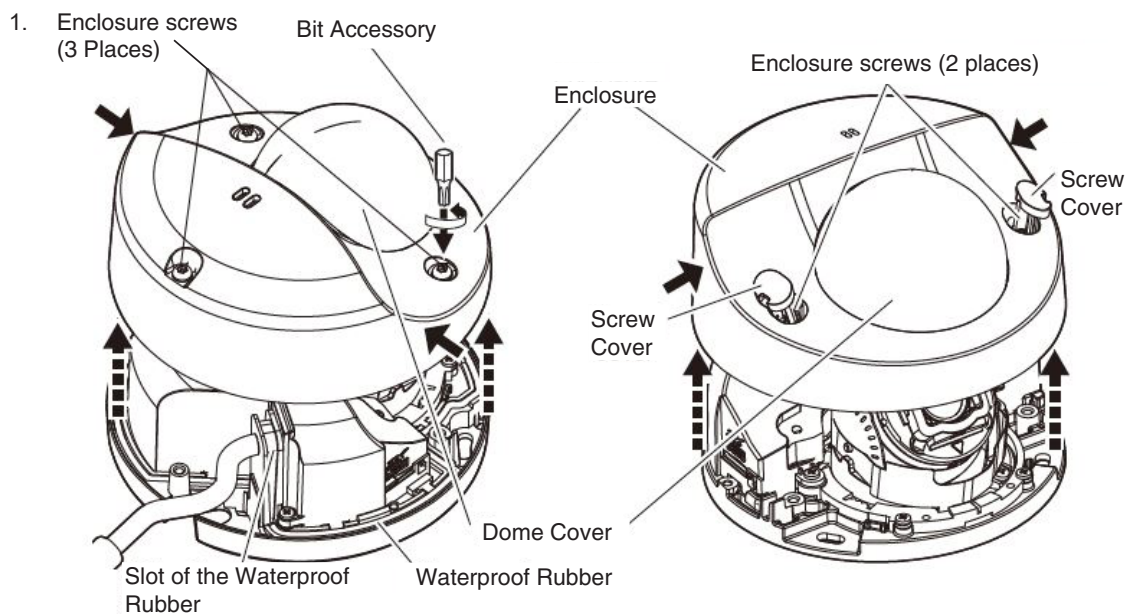
1. Insert the microSD memory card into the microSD slot with the printed side facing up.
2. Insert the card into the end of the slot and confirm that a clicking sound is made.
3. Ensure that the cards back end does not protrude over the surface of the slot.

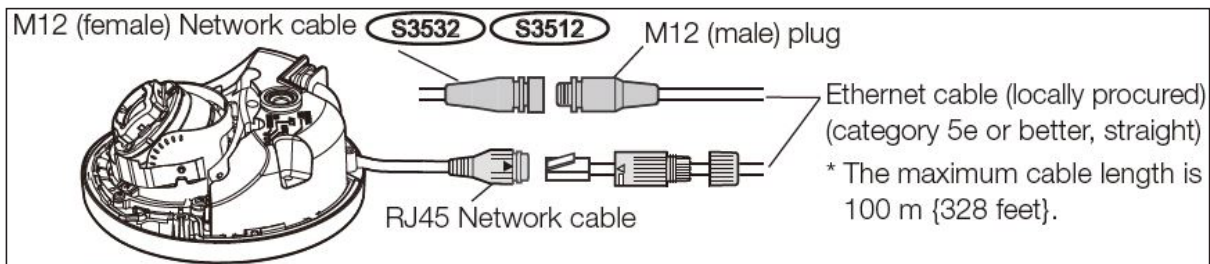
**SECURITY CAMERA INSTALLATION**

- A USB card must be inserted into each camera to obtain an IPS address.
- 1 Ethernet cable runs back to the kiosk per camera.
- Take the outside cover off to adjust the camera's field of view.

*Removing the enclosure:*

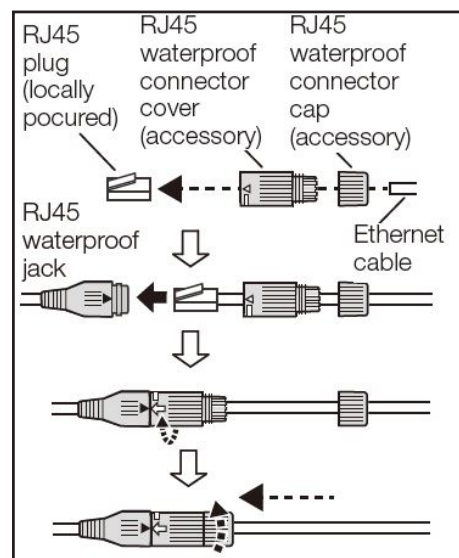
1. Loosen the enclosure screws in (3) places using the bit accessory.
2. Hold both sides of the enclosure to remove it.
3. Remove the packing from the inside of the dome cover.





### *Making the connection:*

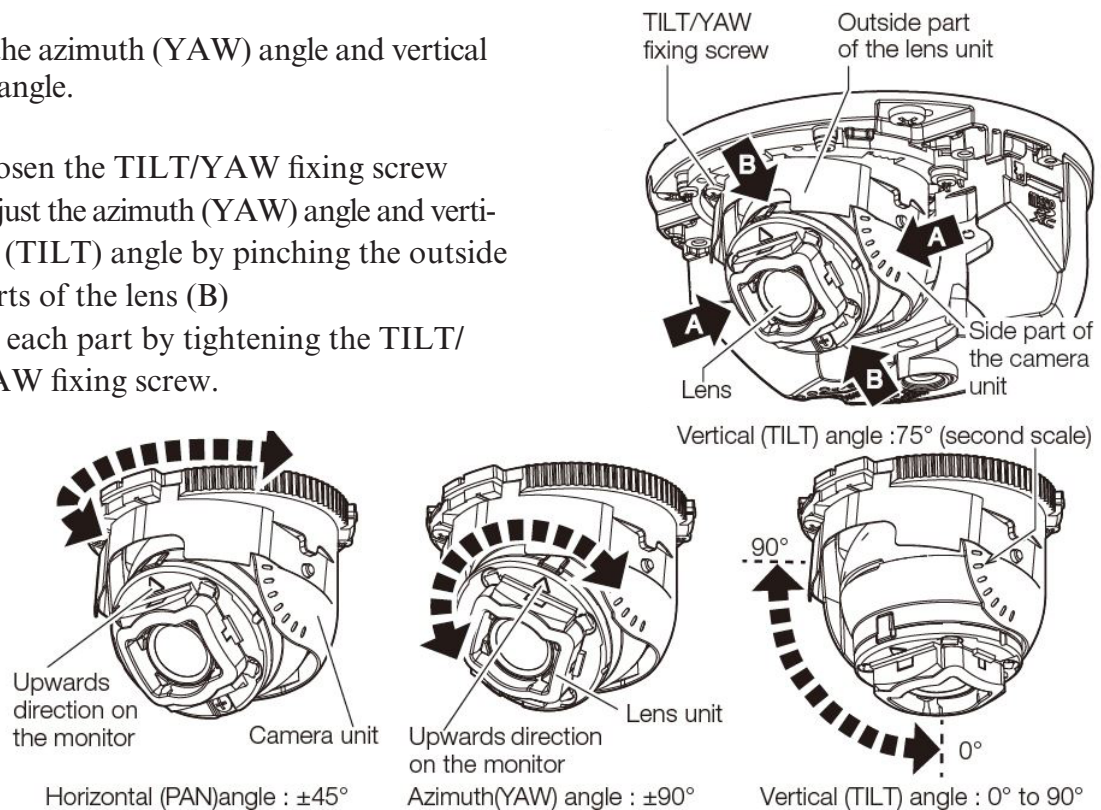
1. Pass Ethernet cable through the RJ45 connector cap (accessory) and then through the RJ45 connector cover (accessory). Next, use a specialized tool (locally procured) to crimp the RJ45 plug (locally procured) to the end of the Ethernet cable. Take care not to remove rubber parts from inside the RJ45 connector cover.
2. Insert the RJ45 plug into the RJ45 jack that is connected to the camera.
3. Connect the RJ45 connector cover to the RJ45 jack, and then rotate the RJ45 connector cover until the "↔" marks align.
4. Connect the RJ45 connector cap to the RJ45 connector cover, and rotate the RJ45 connector cap until there is no gap between it and the RJ45 connector cover.





### *Adjusting the camera's angle of view*

1. Adjust the horizontal (PAN) angle by pinching the side parts of the camera (A).
2. Adjust the azimuth (YAW) angle and vertical (TILT) angle.
  - a. Loosen the TILT/YAW fixing screw
  - b. Adjust the azimuth (YAW) angle and vertical (TILT) angle by pinching the outside parts of the lens (B)
  - c. Fix each part by tightening the TILT/YAW fixing screw.



## REFRIGERATION STARTUP



## IMPORTANT

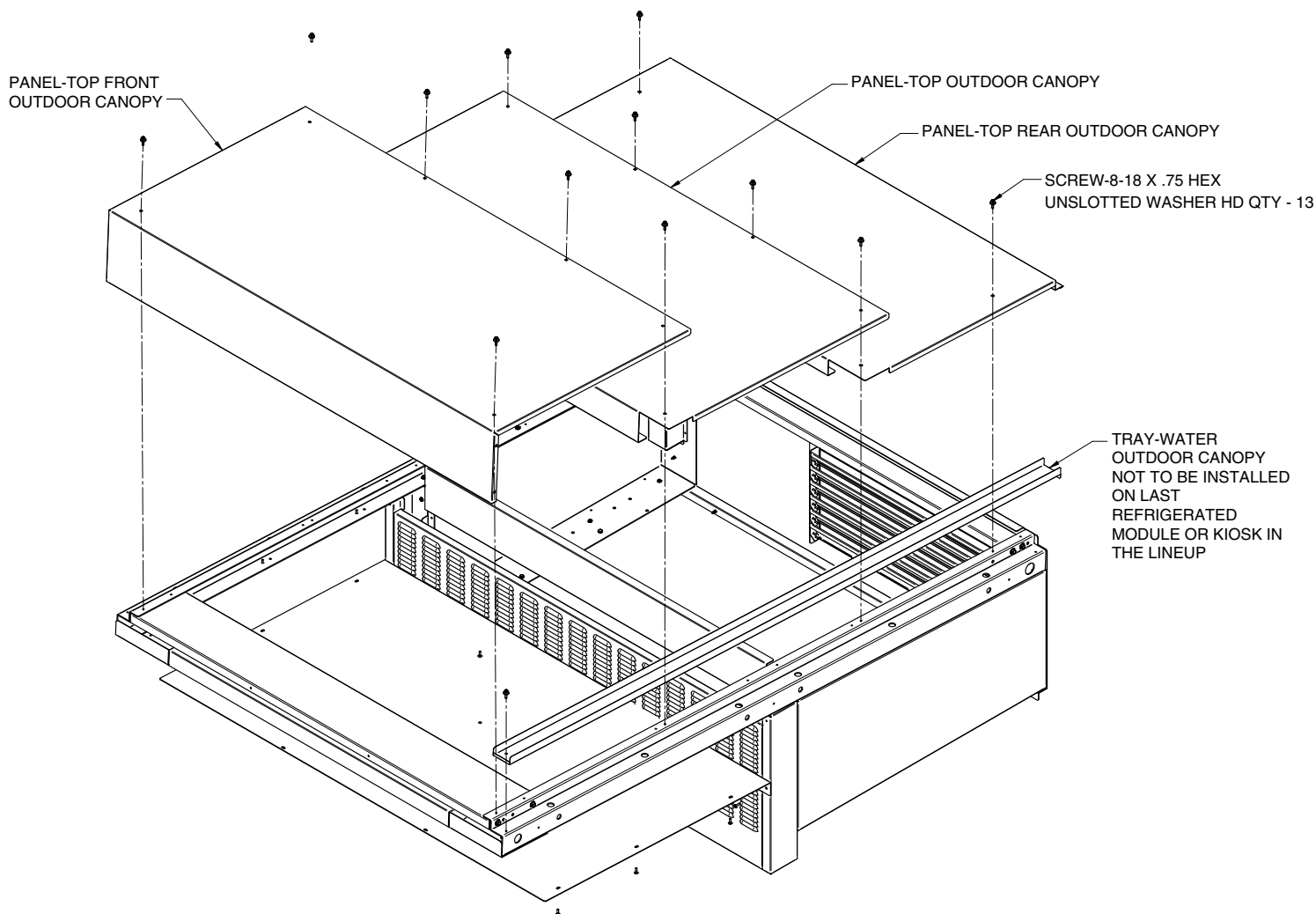
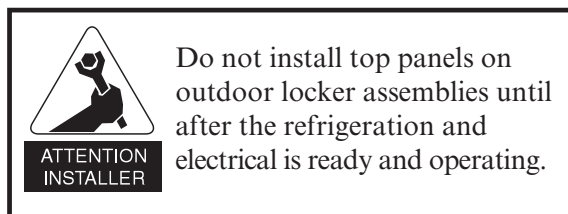
The refrigeration can be started up at this time. Please refer to the Refrigeration Section (Sec. 4) of this manual before starting up the condensing units of the locker assembly.

It is recommended to allow each refrigeration module to run to its control temperature cutout setpoint before proceeding with canopy installation. This will allow installing contractor to more easily address any refrigeration issues. See separate Technical Data Sheet (TDS) for refrigerant settings and defrost requirements. Bring each refrigerated module down to its corresponding operating temperature listed on the data sheet.

Each refrigerated module has its own evaporator coil and pre-set adjustable thermostatic expansion valve (TXV). Evaporator super heat must be checked on each refrigeration system during startup. The TXV has been factory set to provide the recommended performance settings as specified on merchandiser data sheets. Only a certified technician should adjust these valves.

## INSTALL TOP PANELS AND WATER TRAY(S)

1. Use #8 washer head screws (included in kit) to fasten the top panels and water tray.

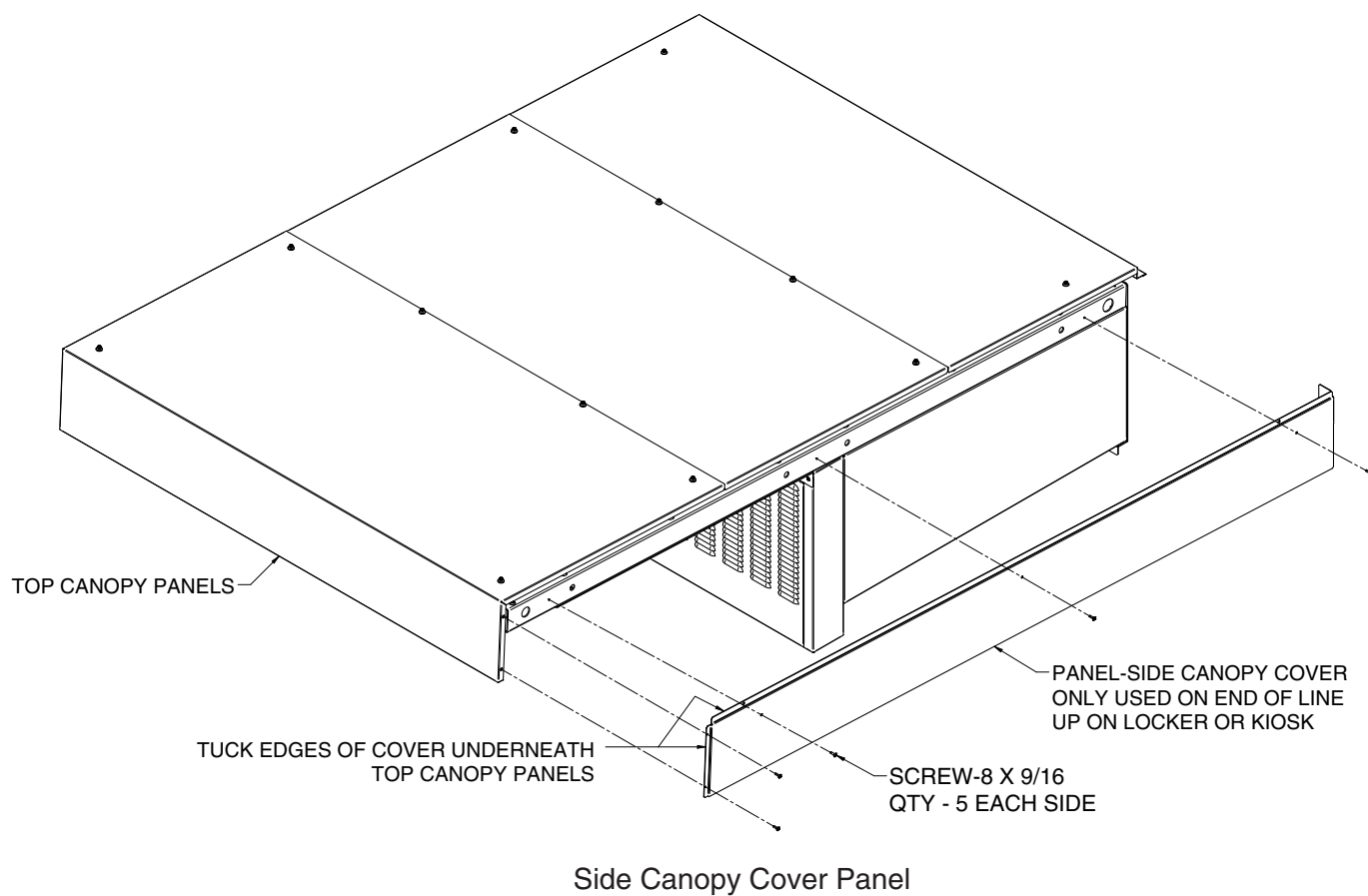


Top Panel and Water Tray installation

## INSTALLING CANOPY SIDE PANEL COVER

Side panels need to be installed at the ends of module lineup(s). They can be fitted to either a refrigerated module or a control kiosk.

1. Use #8 washer head screws (included in kit) to fasten the side panel as shown below.

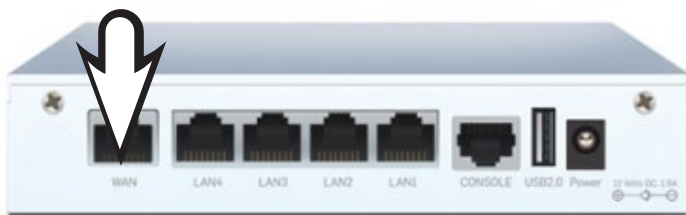


## CONTROL KIOSK FIELD CONNECTIONS

Attach building ethernet cable to Sophos device port, located in the control kiosk. Attach keyboard cord to computer USB.

### FIELD CONNECTION CHECKLIST (for locker assembly using building's Internet)

1. Plug building CAT5 CAT6 cable to the WAN port to the Sophos device,



2. Power device or wait until Sophos looks for the cloud server and locks the signal. The leds will flash one by one until they all lock on a steady green for Power, System, Router, Internet and Tunnel as the below. If you see a flashing green or red means, there is no internet available.



3. Check that there is internet by pressing the Windows button with the provided keyboard and go to Internet explorer or browser and look for msn.com or yahoo.com.



4. If there is no internet at the browser but the leds are locked green means that the IT team has not opened the correct ports in the IP tunnel. It needs to be troubleshoot from the internet responsible.

5. If internet is present at the browser, all leds are locked but the kiosk is not working, call Mighty Oaks for troubleshooting.

### Field Connection checklist for using 3G 4G router

1. Ensure that 4G router is turned on, has enabled SIM card, all antennas are connected and has good signal. See below sample

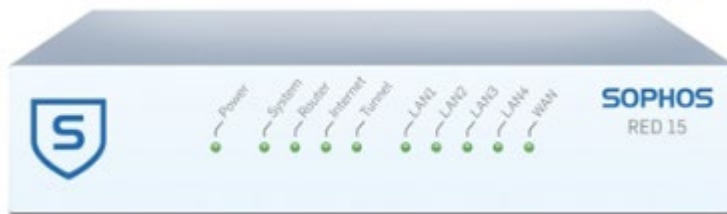


(Only used for optional Cell Communication Kit.)

2. Plug CAT5 CAT6 cable from 4G router to the WAN port to the Sophos device (if not plugged from the factory already)



3. Power device or wait until Sophos looks for the cloud server and locks the signal. The leds will flash one by one until they all lock on a steady green for Power, System, Router, Internet and Tunnel as the below. If you see a flashing green or red means, there is no internet available.



4. Check that there is internet by pressing the Windows button with the provided keyboard and go to Internet explorer or browser and look for msn.com or yahoo.com.



5. If there is no internet at the browser but the leds are locked green means that the IT team has not opened the correct ports in the IP tunnel. It needs to be troubleshoot from the internet responsible.
6. If internet is present at the browser, all leds are locked but the kiosk is not working, call Mighty Oaks for troubleshooting.



# ELECTRONIC CONTROLLER

**NOTE:** See separate instructions (part number 3139727) for field software commissioning.



## WARNING

### IMPORTANT!

Disconnect electrical power before beginning any service on electrical or electronic components. **DO NOT** work around live electrical circuits. Make sure the machine is switched off before working on electrical connections. All operations must be carried out by qualified personnel.

Check that the supply voltage is correct before connecting devices. Never use power that differs from that indicated in the manual. Power supplies other than those specified can seriously damage the refrigeration system or other components and parts.

Separate the cables of the analogue inputs from those of the digital input and the serial line cables from the power cables (resistive as well as inductive), in order to prevent malfunction due to electromagnetic interference. All system components should be obtained from Hussmann to ensure system compatibility and reliability.

Make connections as short as possible, and do not wind them around electrically connected parts. When connecting loads, follow connection diagrams carefully.

Never connect the secondary of the supply transformer to the earth.

The low voltage connections must have reinforced insulation.

When using the digital inputs of the CoreLink Controller use another transformer in order to prevent the digital inputs from malfunctioning or being damaged.

To avoid causing static discharge, do not touch the electronic components on the boards.

**DO NOT** use the same secondary of the controllers power. Doing so can result in damage to the controller.

**DO NOT** exceed the maximum current capacity of the onboard controller relays. Always verify the capacity of the output used.

**DO NOT** plug in accessory devices that are not approved by Hussmann.

**DO NOT** exceed the maximum current capacity of the onboard controller relays.

Always verify the capacity of the output used.

**DO NOT** plug in accessory devices that are not approved by Hussmann.

**GND** is Common(-), not earth ground. Do not earth ground this device.

Hussmann is not responsible for misuse or device. Hussmann is not held responsible for deviation from this manual and its intended use. If you have any questions, contact your Hussmann representative for details.

In case of failure or faulty operation, send the controller back to the distributor with a detailed description of the fault.

The controller should not be used for purposes different from those described in this manual. It cannot be used as a safety device.

## **ELECTRONIC CONTROLLER**

Self-contained refrigerated modules are controlled by a CoreLink Electronic Controller, for refrigeration, defrost, anti-sweat heaters, low ambient cabinet heaters and fans. The controller is factory programmed with the required parameters to operate the locker assembly and maintain required product temperature. There is no need to adjust the controller, however, it is recommended that the program be checked at start-up. Refer to the refrigerated module data sheet for discharge air setpoint, defrost cycle and other information. Please see CoreLink Manual and additional product literature for reference.

## **INTERNAL WEB SERVER**

The CoreLink controller features a user-friendly interface that can be accessed via web browser. There are two methods for accessing CoreLink.

The wireless connection kit directly at the CoreLink hosted by Web UI on a connected smart device, or users can access CoreLink through the maintenance login using the kiosk computer.

**For explanation of wireless connection in the control kiosk, refer to:**

**Field Software Setup Instructions, part number 3139727.**

## **DATA LOGGING**

The control application has internal logging for each sensor along with critical operation data. Data is available for local download. On board data logging allows user to review performance data from the past week. User can see MIN/MAX/AVERAGE data along with saving data sets and exporting data sets for review.

## **FACTORY RESTORE**

The CoreLink application has a configuration file with the complete and optimized default settings.

Anytime a user wants to default to factory settings they can simply access the controller user interface and perform a factory restore.

## **STANDALONE OPERATION**

Controllers are configured from the factory to run as standalone controllers. Field network integrations can be done to provide additional capabilities to the controller.

In the case of network failure of BAS managing additional controller functions, the controller will default to standalone settings and regulate refrigerated modules until connection is restored.

# How to connect to CoreLink Controller

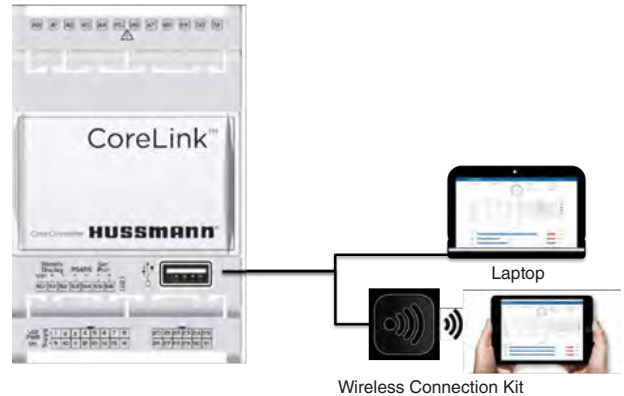
## Wireless Connection

### Components Required

The following items are required for first time connection:

#### Wireless Access Point

- One Wireless Connection Kit - PN 3053767
- One Computing Device
  - Smartphone / Mobile
  - Tablet
  - Laptop



**ATTENTION CONTRACTOR!**  
This device must not leave the store.

### Connect the CoreLink with Wireless Access Point

#### Step 1

Connect your wireless router connection kit to the CoreLink USB port.

#### Step 2

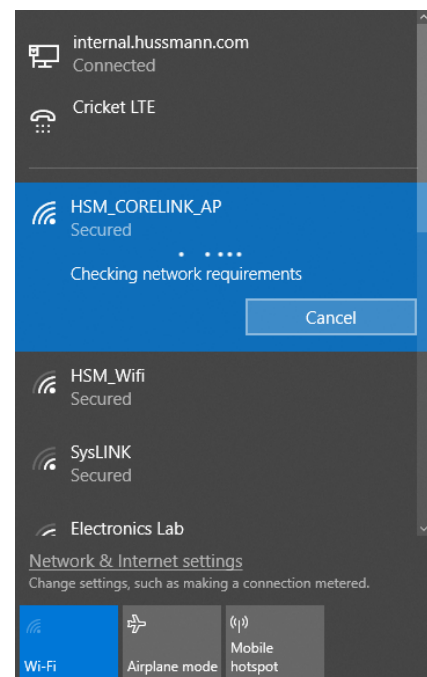
Wait until the router boots up (about 30 seconds). Next, open your laptop/tablet/phone wireless network connection panel and use the default Wi-Fi Network/SSID Name and Network Key/Password noted below. These are also printed on the wireless connection kit.

#### Wireless Network Name/SSID:

HSM\_CORELINK\_AP

#### Network Key / Password:

HussmannCL1234



### 3-4

#### Step 3

Launch a web browser

- Safari
- Google Chrome
- Mozilla Firefox
- Microsoft Edge
- Opera
- Internet Explorer (Not Recommended)

Login to the controller is done through the kiosk. Contact Mighty Oaks for the IP address. Please see separate Field Software Setup Instructions, part number 3139727.

Note: Clear cache to see latest Web UI Version. If your browser is still not working, please try the other browsers before reporting an issue.

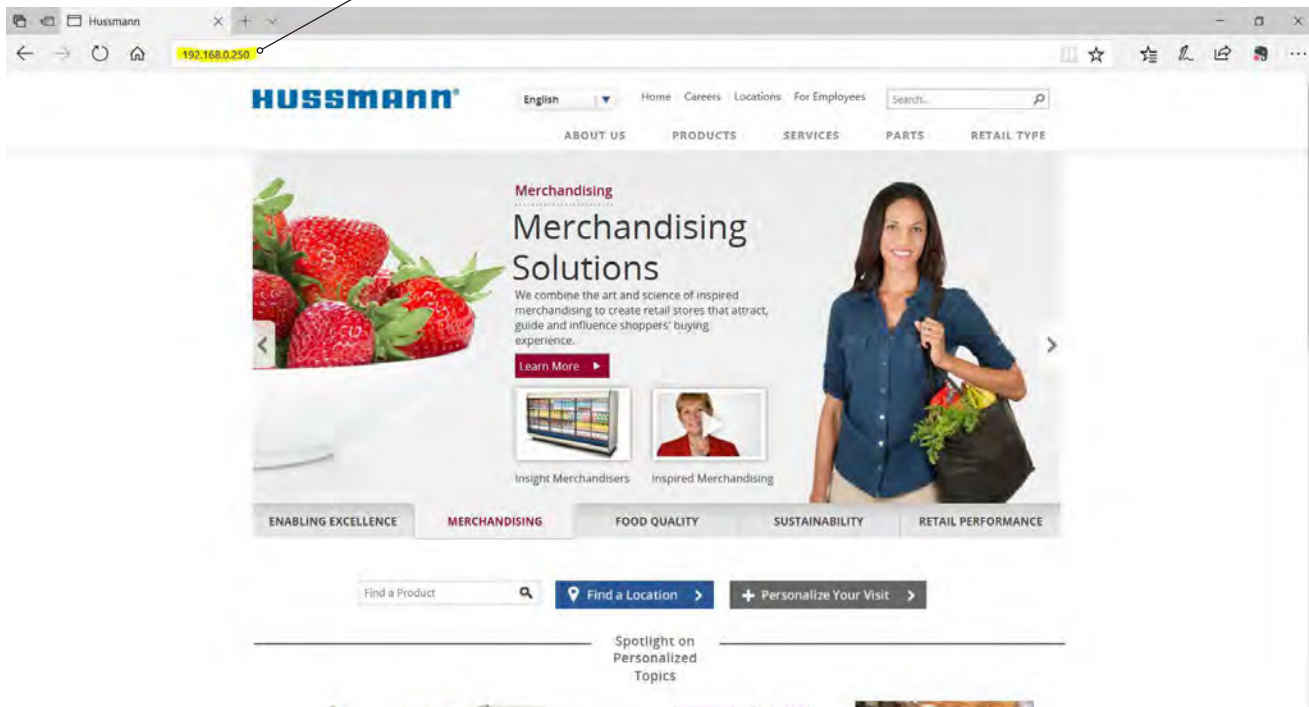
#### Step 4

Enter controller's IP into the **Address/Search** Bar of your browser.

**Default** – 192.168.0.250

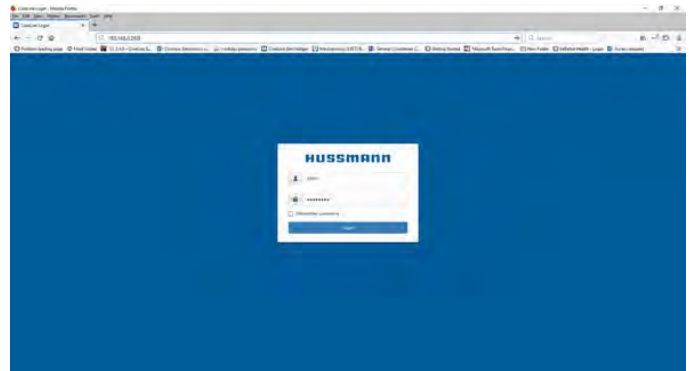
Other – **Review Store Network Chart**

This IP address is changed after installation.



**Step 5**

The controller login page will appear. Enter log in information as noted below.



SW version >= 2.4.0	All Previous Versions
<b>Level 1</b> User Name: user Password: Hussmann	<b>Level 1</b> User Name: Hussmann1 Password: Hussmann
<b>Level 2</b> User Name: service Password: Hussmann1234	<b>Level 2</b> User Name: Hussmann2 Password: Corelink1234
<b>Level 3</b> User Name: commission Password: Corelink4321	<b>Level 3</b> User Name: Hussmann3 Password: Corelink4321
<b>Admin</b> Not Available	<b>Admin</b> User Name: admin Password: Hussmann

## Direct Wired Connection

- One RJ-45 Ethernet to USB adaptor  
(Details Below)
- One RJ-45 Ethernet Cable
- A laptop with an RJ-45 Ethernet port

### USB to Ethernet Adaptors

#### Approved RJ-45 Ethernet to USB adaptor

##### Best Option (Amazon Prime)

AmazonBasics USB 2.0 to 10/100 Ethernet LAN Network Adapter  
Model: AE2233X2



Model: AE2233x2

##### Found Locally (Best Buy)

Insignia - USB 2.0-to-Ethernet Adapter – White  
Model: NS-PU98505 | NS-PU98505-C



Model: NS-PU98505 | NS-PU98505-C

##### Others

Plugable USB 2.0 to 10/100 Ethernet LAN Network Adapter  
Model: USB2-E100

Belkin USB 2.0 Ethernet Adapter LAN Network Adaptor  
Model: F4U047bt

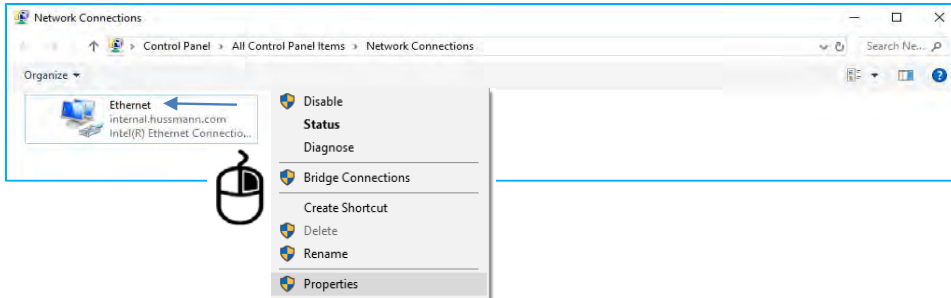
**Note:** Adaptors in the list above have been approved for use with CoreLink. Some adapter versions may not work with the locaker assembly. The use of other adapters is at the user's own risk.



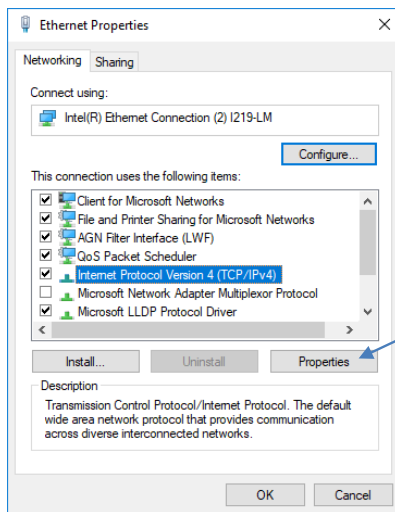
## Connecting to CoreLink - Direct Wired Connection

**Step 1** - Connect laptop with RJ-45 ethernet cable/USB adaptor to CoreLink

**Step 2** - Change laptop network settings – open laptop network settings, right click **Ethernet**, select **Properties**.



**Step 3** - Select **Internet Protocol Version 4 (TCP/IPv4)** (TCP/IPv4)



Click > Properties

Login to the controller is done through the kiosk. Contact Mighty Oaks for the IP address. Please see separate Field Software Setup Instructions, part number 3139727.

This IP address is changed after installation.

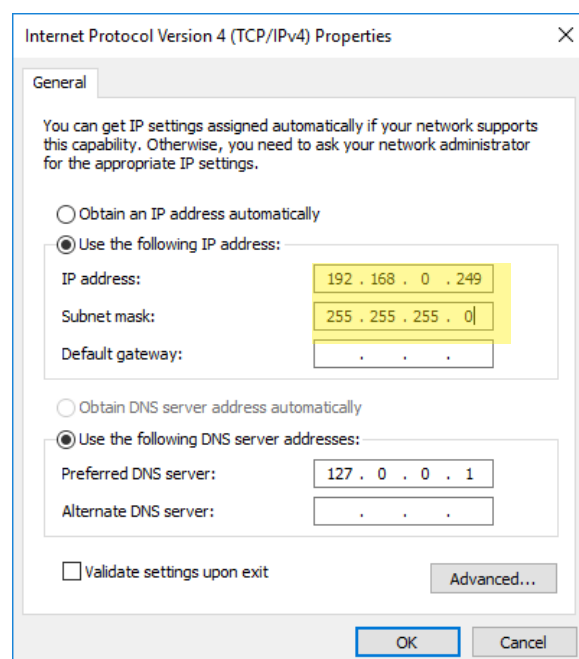
**Step 4** - Enter IP address and subnet mask  
**Internet Protocol Version 4 (TCP/IPv4) Properties**

**IP Address: 192.168.0.249**  
**Subnet mask: 255.255.255.0**

The laptop computer now has a static IP assigned that is compatible with the CoreLink Network.  
Click > OK

**Note:** Changes to your ethernet port settings might affect normal connection to the internet with your personal laptop.

To revert ethernet settings, repeat Steps 1-4.  
Select > **Obtain IP address automatically** button on the general tab of the dialog box shown in the illustration at right.  
Click > OK



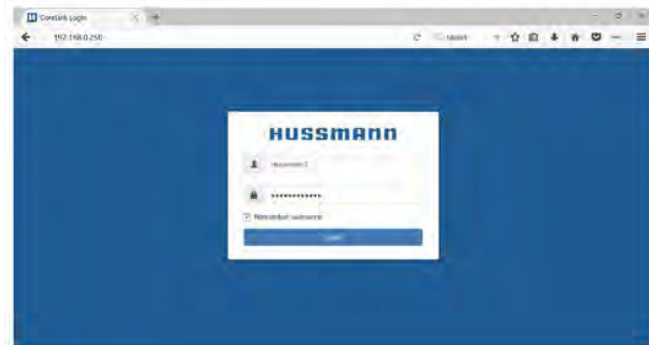
## Successful Connection to CoreLink

### Step 5

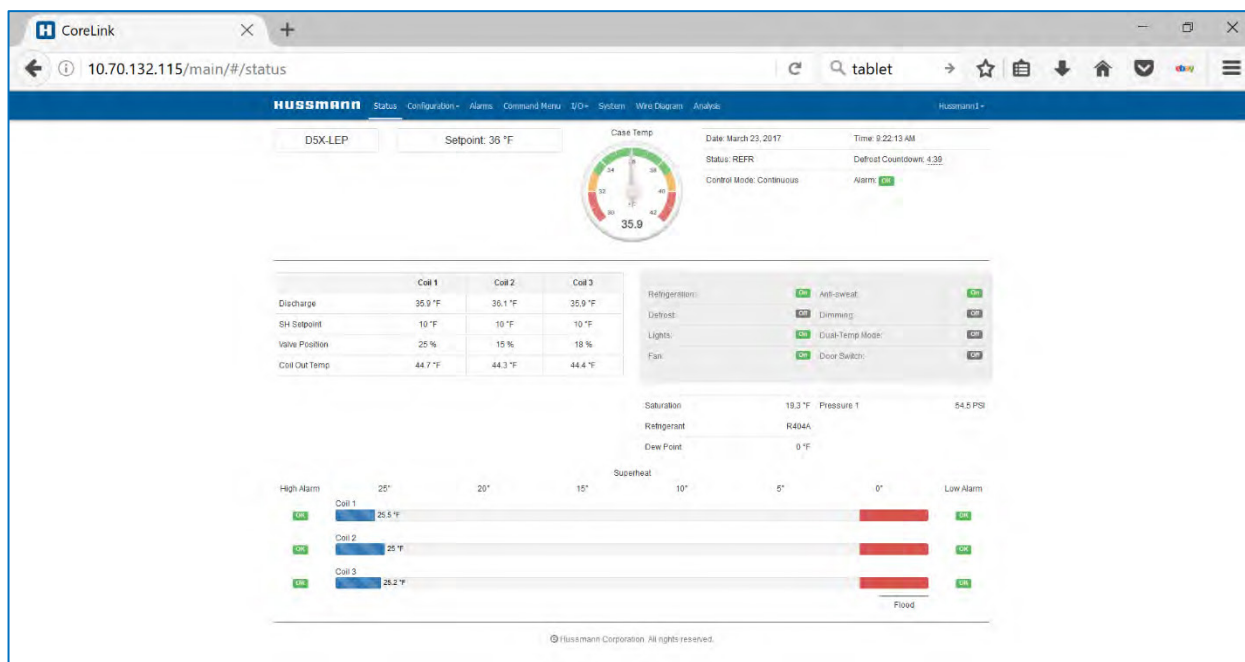
If connection is established to the CoreLink Controller a Hussmann launch screen should appear. Username and password case sensitive.

See Page 3-5 for username / password combinations.

Congratulations, you are now connected to Corelink



After logging in, the CoreLink Dashboard is displayed.



## How to connect to CoreLink Controller

### Custom Store Network

When visiting a store site, the technician might notice the USB to Ethernet adaptors installed and connected to RJ-45 ethernet cable at the CoreLink Controllers. The store likely has a custom CoreLink Controller network with all refrigeration module connected directly to an ethernet switch or multiple ethernet switches. To access these controllers, please consult the refrigeration service contractor, or Hussmann Representative.

Technicians will need to obtain details of the network setup. Some networks may only be accessed through direct wire connection and others may have Wi-Fi available onsite. Username and password will be needed to make connection to this network much like the access point instructions above.

Technicians will also need to know the IP addressed assigned to each circuit. In this scenario each CoreLink Controller will have a unique IP address assigned. Technicians will only be able to gain access to the internal Web UI with the correct provided IP address.

Once connected to the network the technician will be able to access any of the controllers connected to the network.

## FIXING COMMON CONNECTION ISSUES

### Clearing Cache

If the Web UI has been revised, you may need to clear your browser's cache in order for the Web UI to work correctly and see new updates. See steps in chart to clear cache.

If the CoreLink login screen does not appear after typing in the web address, first check that hardwire connections or wireless connection are correct.

Web browsers are updated on a continuous basis. Information presented below is subject to change. When in doubt, search the internet for up-to-date instructions for how to clear history for the web browser you are using.

WEB Browser	Clearing Web History Cache
Google Chrome (Android)	<ol style="list-style-type: none"> <li>1. Open Chrome.</li> <li>2. On your browser toolbar, tap "More".</li> <li>3. Tap History, and then tap Clear Browsing Data</li> <li>4. Under "Clear Browsing Data," select the checkboxes for cookies and site data and cached images and files.</li> <li>5. Use the menu at the top to select the amount of data that you want to delete.</li> </ol>
Firefox (Mozilla)	<ol style="list-style-type: none"> <li>1. Click the menu button, choose History, and then Clear Recent History</li> <li>2. Select how much history you want to clear. Click the drop-down menu next to Time Range to clear to choose how much of your history Firefox will clear</li> <li>3. Finally, click the Clear Now button.</li> </ol>
Safari (Apple/Mac)	<ol style="list-style-type: none"> <li>1. Click Safari in the upper lefthand side of your screen. In the menu that appears, click Preferences.</li> <li>2. In the window that appears, click the Privacy Tab. Click the button Remove All Website Data</li> <li>3. Click Remove Now in the pop up window that appears.</li> </ol>
Microsoft Edge (Not Recommended)	<ol style="list-style-type: none"> <li>1. Open the Settings Menu. In the top righthand corner you'll see three dots in the horizontal line,</li> <li>2. Locate Clearing Browsing Data</li> <li>3. Choosing What to Clear</li> <li>4. Restart the browser</li> </ol>
Internet Explorer (Not Recommended)	<ol style="list-style-type: none"> <li>1. Select Tools &gt; Internet Options.</li> <li>2. Click the General tab and then the Delete button.</li> <li>3. Make sure to uncheck Preserve Favorites website data and check both Temporary Internet Files and Cookies, then click delete.</li> </ol>
Safari Apple iPhone	<ol style="list-style-type: none"> <li>1. Launch the Settings App from the home screen of your iPhone or iPad.</li> <li>2. Scroll down and tap on Safari.</li> <li>3. Now scroll all the way to the bottom and tap on Advanced</li> <li>4. Tap on Website Data.</li> <li>5. Scroll to the bottom again and tap on Remove All Website data.</li> <li>6. Confirm one more time you'd like to delete all data.</li> </ol>
Chrome (Android Phone)	<ol style="list-style-type: none"> <li>1. Open Chrome browser and tap the Menu button</li> <li>2. Tap "Settings" in the menu that appears.</li> <li>3. Tap "Privacy" in the Advanced Section</li> <li>4. Scroll down and tap "Clear Browsing Data".</li> <li>5. Ensure that "Cache" and "Cookies, site data" are checked and then tap "Clear".</li> </ol>

# REFRIGERATION

## REFRIGERATION

These self-contained refrigerated modules have air-cooled condensers. The evaporator coil is connected to a dedicated condensing unit assembly located on top of the refrigerated module behind the keyed ventilation panel. Each self-contained refrigerated module is equipped with its own condensing unit. The refrigeration systems are factory charged and sealed and may use R404A, R448A, R134a or R513a refrigerant depending on the application. Each refrigerated module has one electronic controller. All models have compressors. The systems employ expansion valves and distributors for refrigerant flow control. Refer to the refrigerated module serial plate for refrigerant charge information.

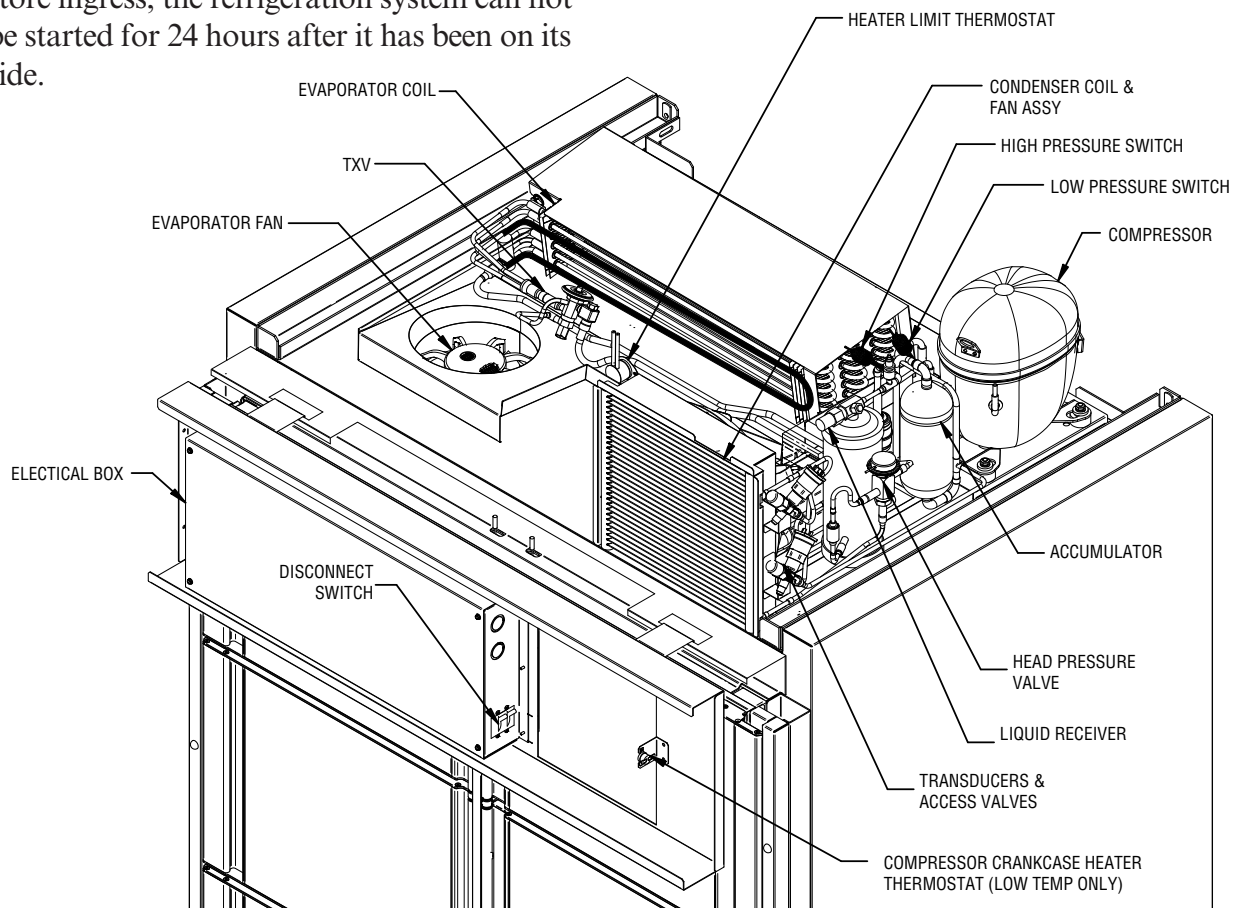
If refrigeration module has been tilted over for store ingress, the refrigeration system can not be started for 24 hours after it has been on its side.

## CONDENSING UNIT ACCESS

Condensing units are located on top of the lockers. The condensing units have an electrical control box located behind the top ventilation panel. The electronic control box and condenser close-off panel can be removed and hung from hooks on the raceway to access the condensing unit compartment. Additionally, the top canopy or each refrigerated module is removable for improved condensing unit access.

### **⚠ WARNING**

Opening condensing unit electrical box exposes personnel to electrical hazard and should only be performed only by a qualified service technician.



CONDENSING UNIT WITH ELECTRICAL PANEL LOWERED FOR MAINTENANCE

## SEQUENCE OF OPERATION

The refrigerated modules have a rear-mounted electrical junction box for wire connections in the field. Refrigerated modules and control kiosks are single point connection per module. There are control connections that must be made in the field from each CoreLink controller to the kiosk and from each Wago door lock controller to the primary Wago PLC in the kiosk. See Section 2 of this manual for more information.

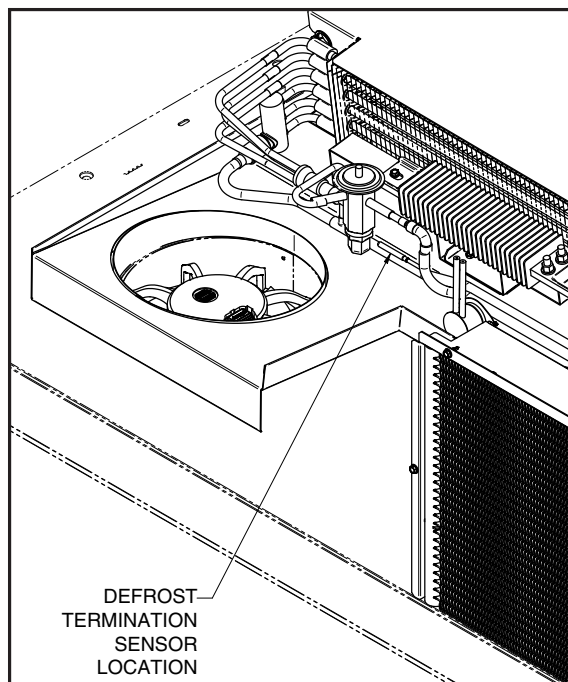
### Compressor

Temperature is controlled by cycling the compressor ON and OFF based on the discharge air temperature. Discharge air sensor is located behind an access panel in refrigerated module #1 of each module (top left compartment). (Do not splice sensor wiring when replacing sensors.) Compressor has a 30-second delay at each startup to prevent excessive startup current.

The discharge air temperature for low temperature modules is factory set for -10°F, 33°F for the medium temperature module(s) and 65°F for outdoor ambient refrigerated module(s). Each setpoint also includes a differential temperature setpoint that defines the compressor (or heater) cut-in and cut-out points. Indoor ambient modules are not typically refrigerated.

### DEFROST

Defrosts are time initiated and are programmed with the correct number of defrosts per day and the correct termination setting (temperature for low temperature modules and time for medium and ambient modules). The start time for defrost is programmed into the CoreLink controllers as well. (Do not splice wiring when replacing sensors.) The defrost termination sensor is located between the evaporator fan and evaporator coil.



### LOW AMBIENT HEATING MODE

Outdoor medium and ambient temperature refrigerated modules also include low ambient heaters for temperature control during periods of low ambient weather. Refrigerated module modules will be cooled down to the LOWER WARM SWITCH/LINE TRIGGER setpoint in CoreLink.

Heaters will then engage and manage to the same discharge air setpoint and differential as in cooling mode. Heater output is pulsed to prevent overheating the elements. Due to this pulsation, you may not see an amp drawing immediately when checking heater amp draw. Heater will cycle ON OFF in a manner like compressor operation in cooling mode until refrigerated module reaches the UPPER COOL SWITCH/LINE TRIGGER setting in CoreLink, at which point cooling mode will reengage.



## EVAPORATOR FANS

Evaporator fan is controlled via CoreLink output and are configured to run in specific modes depending on the application. For low temperature modules, evaporator fans will run on during refrigeration and off during defrost and defrost drip (ON REFRIG/OFF DEFROST). For medium and ambient temperature modules, evaporator fans will run continuously. Evaporator fan is in top section of the refrigerated module and can be accessed for replacement from inside locker compartment #1 with a removable panel in the top ceiling.

## CONDENSER AND WINTER HOLD BACK

Condenser fan is controlled via CoreLink output and is configured to run whenever the refrigeration output is engaged. Condenser fans on low temperature modules are wired to include the use of the Hussmann Fan Speed Selector controller. Use of a FSS chip runs condenser fans on low temperature modules at 1550 rpm.

Additional chips are available in increase fan speed is required due to unique installation requirements. Medium and ambient condenser fans do not use FSS controllers, fans will operation at default speed of 1300 RPM.

Outdoor low and medium temperature modules include winter holdback valves to maintain a minimum condensing pressure during low ambient periods. These valves are Sporlan LAC-4 valves with settings of 210 psig (for R404A and R448A models) and 100 psig (for R134a and R513 modules). Outdoor ambient and all indoor modules do not incorporate winter control valves.

## DRAIN TRAP HEATER

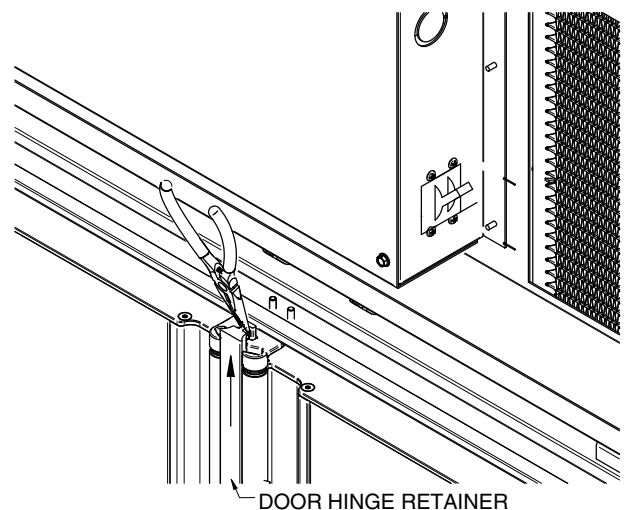
Low temperature refrigerated modules include wire heaters to heat evaporator pans and drain traps. Heater is controlled via CoreLink relay and is activated during defrost and defrost drip cycles.

## CRANKCASE HEATER

Compressors are equipped with crankcase heaters that operate when the compressor is OFF. Low temperature modules also include a control thermostat that only allows the crankcase heater to operate with ambient temperatures are lower than 75°F.

## ANTI-SWEAT HEATERS

Refrigerated modules incorporate an AS heater wire loop installed behind metal plates on each door mullion. This heater is controlled via CoreLink controller and uses a Frame Temperature Sensor located in the center mullion between the top two doors.



CoreLink will cycle AS Heaters between a minimum and maximum temperature as defined in the CoreLink AS Heater control configuration settings tab. Due to this pulsation, you may not see an amp draw immediately when checking AS heater amp draw. Additionally, should the Frame Temperature Sensor fail, heaters will default to 100% operation. Sensor will need to be replaced as soon as possible.

### **ADDITIONAL SAFETIES**

CoreLink incorporates additional safeties to protect the refrigerated modules from critical failures. These safeties may or may not be implemented depending on the model of the refrigerated module. The following safeties protect the compressor in the event of a refrigerant loss, fan failures or condenser blockages.

### **COMPRESSOR DISCHARGE SAFETY**

The controller will alarm and disable the compressor output until the discharge pressure raises above its cut out threshold. Please note, it is the digital pressure switch that controls this function. Discharge pressure transducer is only used for troubleshooting purposes.

### **COMPRESSOR SUCTION SAFETY**

The controller will disable the compressor output when the safety switch is activated. Compressor will resume operation when the safety switch is deactivated.

If five switch activations occur within 20 minutes, a suction pressure lockout will commence, which requires service intervention to reset. Please note suction pressure transducer is only used for troubleshooting purposes.

### **COMPRESSOR RUN TIME SAFETIES**

Additional run time safeties are incorporated to protect compressors. If used, the parameters for these safeties are set within CoreLink. This will only allow the compressor to run a maximum time span and then switch off for a defined time span.

### Hussmann Self-Contained Refrigeration Start-Up Check List

\*\*\*Please note that failure to follow this start-up document may void your factory warranty\*\*\*

Step	Startup Activity	Check
1	Locate, read and maintain install/operation manual in a safe place for future reference.	<input type="checkbox"/>
2	Confirm there is NO damage or concealed damage.	<input type="checkbox"/>
3	Level the locker assembly, side to side and front to rear.	<input type="checkbox"/>
4	Remove all shipping brackets/compressor straps/bolts etc.	<input type="checkbox"/>
5	Refrigeration must be run on a dedicated electrical circuit without the use of an extension cord.	<input type="checkbox"/>
6	Ensure that the proper electrical requirements for the locker assembly are supplied.	<input type="checkbox"/>
7	Verify field electrical connections are tight.	<input type="checkbox"/>
8	Verify all electrical wiring is secured and clear of any sharp edges or hot lines.	<input type="checkbox"/>
9	Verify the condensate drain line is properly trapped and pitched.	<input type="checkbox"/>
10	Verify all required clearances on the sides and back of locker assembly.	<input type="checkbox"/>
11	Verify there are no external air disturbances. Heat and air registers, fans, and doors etc.	<input type="checkbox"/>
<b>Advise owner/operator that merchandiser must operate at temperature for 24 hrs prior to loading with product.</b>		

Form HSCW01 Rev. 30MAY12 P/N 0525209\_B

#### LEGAL DISCLAIMER:

Hussmann shall not be liable for any repair or replacements made without the written consent of Hussmann, or when the product is installed or operated in a manner contrary to the printed instructions covering installation and service which accompanied such product.

## STARTING REFRIGERATED MODULES

Turn the disconnect switch to the on position. The refrigerated module will start automatically within 4 minutes. The controller will power on, fans will operate, and compressor will start. The refrigerated module will begin to cool down.

Once the refrigerated module is running, listen for any unusual sounds or events. Examples include: evaporator fan blade interference, condenser fan blade interference, etc. Compressor should run continuously at startup. Use an amperage meter to check the current to compressor. Check each fan to ensure it is running.

## STARTUP AND OPERATION

See the refrigerated module's Technical Data Sheet for refrigeration settings and defrost requirements. Bring refrigerated module(s) down to the operating temperatures listed on the data sheet.

Excessive ambient conditions may cause condensation and therefore sweating of the doors. Facility operators should monitor doors and floor conditions to ensure safety of persons.

12 HOURS AFTER STARTUP CHECKLIST
Check temperature of each refrigerated module
Check for any CoreLink alarms
Check for defrost water in the condensate collection pan
Verify the fans are running.
Check compressor and defrost heater amperage and validate with refrigerated module's serial plate.
Check locker door operation.
Check that all access plate and panel covers have been properly replaced.
Inspect for any water accumulation due to incorrect or unsealed penetrations where electrical or other lines pass through insulated walls of the evaporator section.
Check data logs for proper defrost timing and operation.

## STOCKING

Product should not be placed in lockers until all refrigeration controls have been verified and locker cabinets are at proper operating conditions.

Discharge air slots (at rear of each compartment) and return air slots (underside of each horizontal door mullion) must remain open at all times. Do not allow products or packages to block this air flow slots. Do not use unapproved accessories that could hamper air system performance. Keep doors closed as much as possible to prevent coil frosting and high locker temperatures.

## MAXIMUM LOCKER VOLUMES

Do not exceed 100 lbs per locker. Exceeding the maximum weight load limits may cause damage to the shelf or shelves, damage to the lockers, product damage and potentially create a hazardous condition for customers and staff.

## WASTE OUTLET AND WATER SEAL

Water gravity drains from the internal evaporator pan via an integral drain trap. Condensate removal is via evaporation using the compressor discharge loop in the condensate collection pan. Care should be taken at start up to prime the integral trap to prevent air infiltration during initial run down.

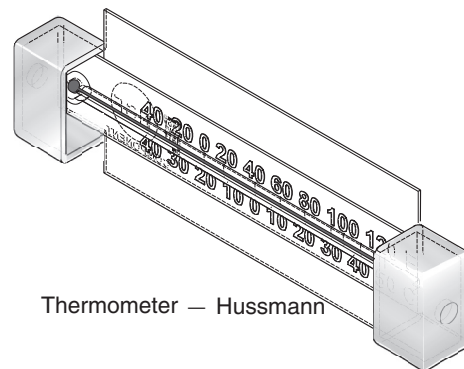
## INSTALLING FDA/NSF REQUIRED THERMOMETER

ONE THERMOMETER IS REQUIRED FOR EACH LOCKER DOOR COMPARTMENT PER NSF.

Locker thermometers are to be installed in the interior top portion of the locker cabinet. These thermometers are necessary for food safety.

This thermometer may not be required or provided in other countries. Check for local code requirements.

This is an NSF-7 &  
US FDA Food Code  
Required  
Thermometer



Thermometer — Hussmann

Hussmann Corporation • 12999 St. Charles Rock Road • Bridgeton, MO  
U.S. & Canada 1-800-922-1919 Mexico 1-800-890-2900 www.hussmann.com  
© 2013 • Hussmann Corporation



## ATTENTION

Regularly check locker compartment temperatures! Do not break the cold chain. Keep refrigerated products in cooler or freezer before loading into locker. Medium temperature refrigerated modules are designed for loading only pre-chilled products. Low temperature refrigerated modules are designed for loading only frozen products.

**4-8**

**NOTES:**



# USING THE LOCKERS

## ADDING / REMOVING USERS TO CUSTOMER CARE PORTAL

The customer care portal allows users to view and manage orders, customers, locker databases and historical data.

It also provides user-level management for locker operations including opening a single door, opening all doors, restarting the application, etc.

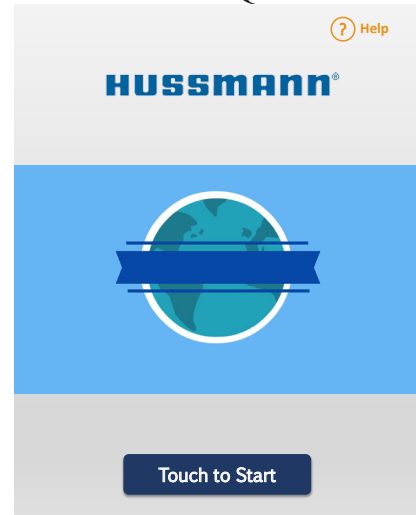
In order to request user access to operators or contractors please have your system administrator or account owner contact the number below:

1. Call Mighty Oaks at (866) 386-9398 Option 1
2. Request User access to the account belonging to your organization. Please provide user details:
  - a. Valid e-mail address
  - b. First Name and Last Name
  - c. Phone (optional)
3. A notification will be sent with your new user name and password.
4. Login to your domain organization.  
*yourdomainproduction.mightyoaks.com*

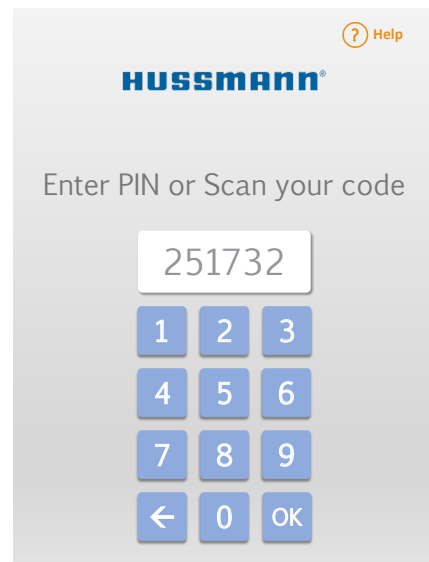
## PLACING ORDERS

Start with the kiosk home screen, and enter the PIN number or scan with a QR code.

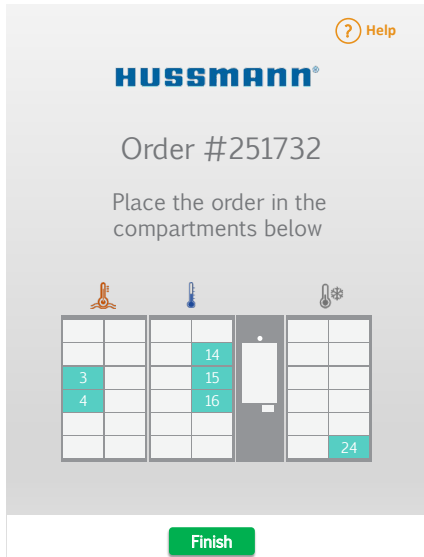
1.



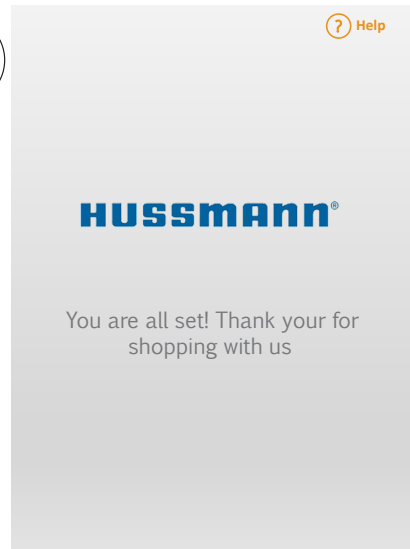
2.



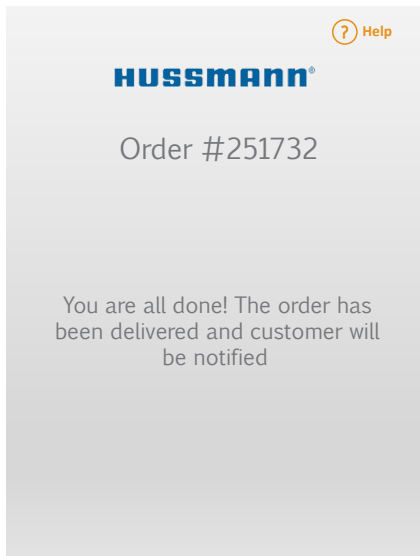
3.



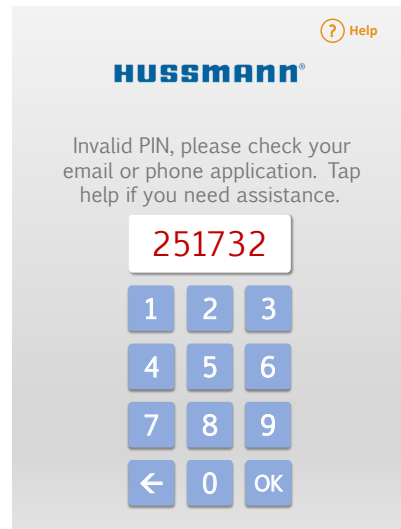
6.



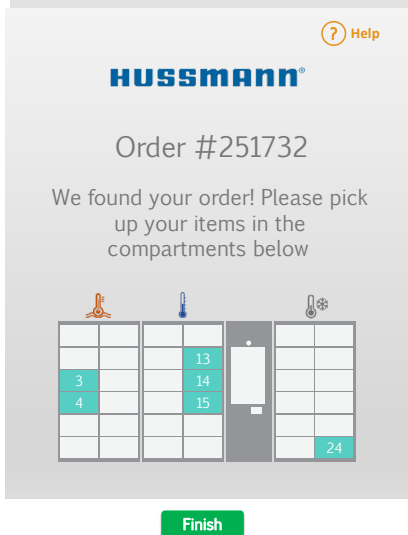
4.



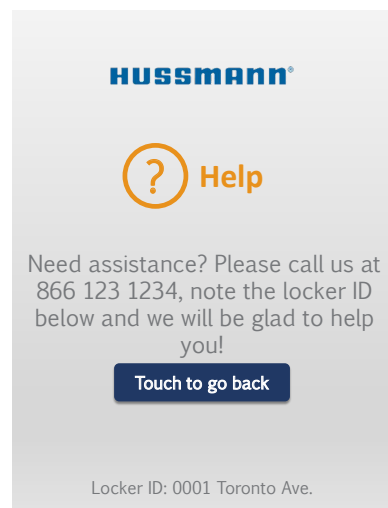
7.



5.



8.



## HUSSMANN SMART EXCHANGE LOCKER RESERVATION PROCESS

Login to Customer Care Portal below URL, which can be whitelisted. There are 2 levels of user permission, Admin and User.

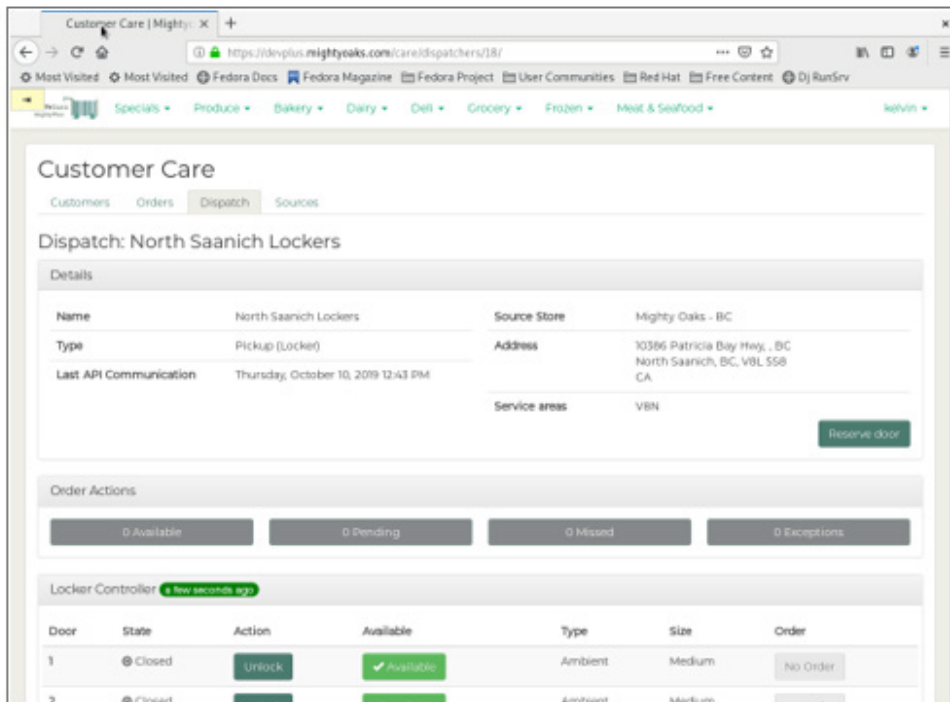
Click on Dispatch as shown below: The page will display the locker list. You can use the search tool to search lockers based on Locker ID. The additional fields are details about the different locker ID's.

ID	Name	Store	City	Type
2	Vancouver	Mighty Oaks - BC		Truck
3	Saanich Pickup	Mighty Oaks - BC	Saanich	Location
4	Greenville Pickup	Toronto	Victoria	Location
5	North and West Vancouver	Mighty Oaks - BC		Truck
6	Burnaby & New West, Port Moody, Port Coquitlam	Mighty Oaks - BC		Truck
7	Richmond	Mighty Oaks - BC		Truck
8	Bowen Island	Mighty Oaks - BC		Truck
9	Greater Victoria	Mighty Oaks - BC		Truck
17	pentest	Fulfillment Store - Mighty Oaks	Asdfasdf	Locker
18	North Saanich Lockers	Mighty Oaks - BC	North saanich	Locker

### NOTICE

These instructions are intended to show the most up to date information for the date this manual was posted. The information contained in this manual is subject to change without notice and will vary for customer specific requests. Please contact your Hussmann Commercial Representative if you have questions.

Every dispatch will display the entire list and status of the locker at a glance. Click, “Reserve Door” to start the reservation process on the locker.



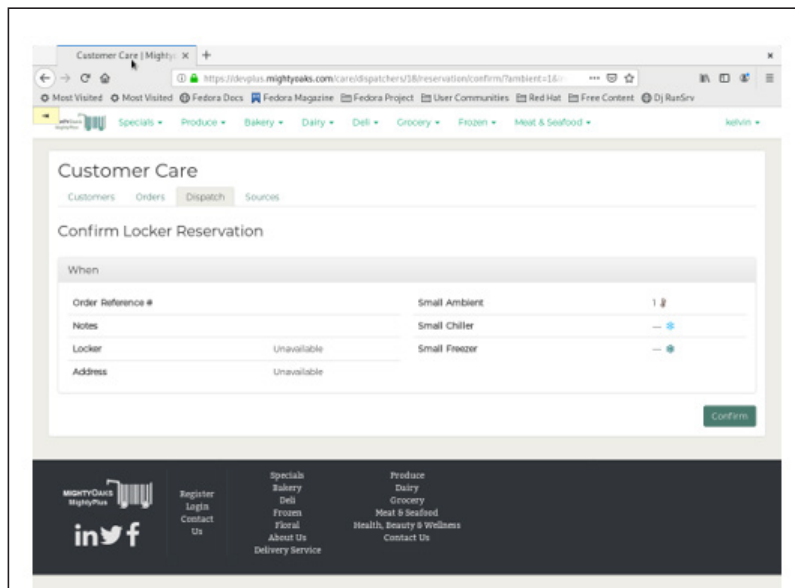
After clicking “Reserve Door”, the below details will appear denoting the available doors per temperature zone including a predetermined pickup window. At this step, select the appropriate number of doors and include any internal (i.e. e-commerce order) reference @ the Ref# field, and attach the email for customer notifications.

The screenshot shows the 'Order' form. At the top is a calendar view for May 6-8, 2020. The calendar shows a pickup window from 8am to 12pm on May 6th. Below the calendar is the 'Order' section with the following fields:

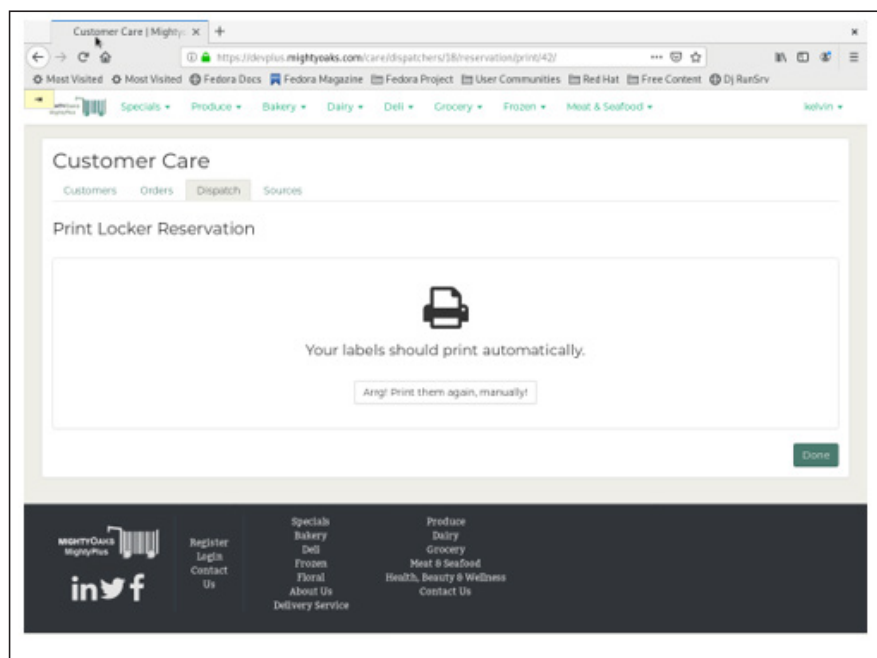
- Ref # (Order Reference)
- Customer Email (johndoe@gmail.com)
- Notes (a!)
- Ambient (1 door)
- Chiller (1 door)
- Freezer (1 door)

The 'Freezer' dropdown menu is open, showing options from 0 doors to 8 doors. The '3 doors' option is selected.

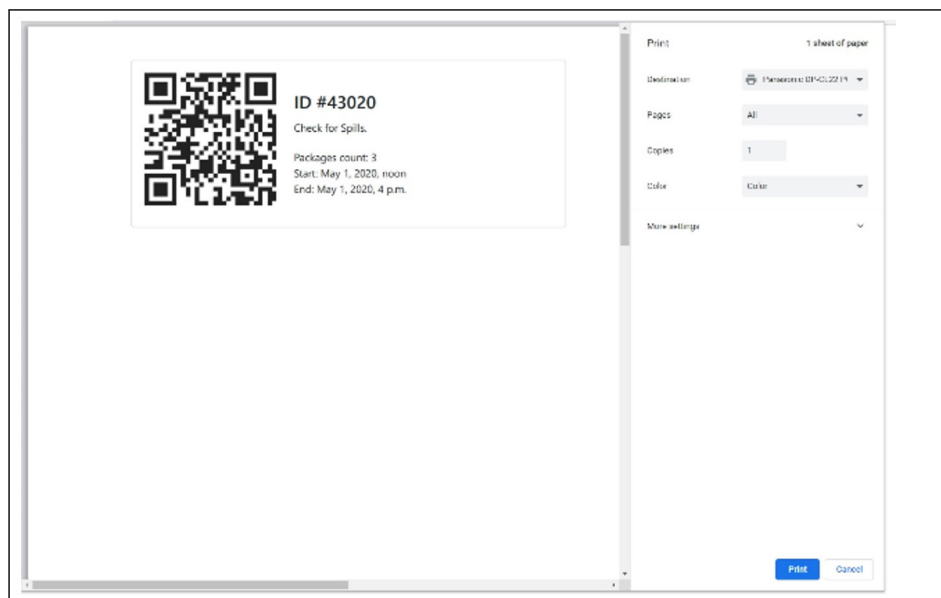
Confirm that the reservation has been completed by clicking “Confirm”.



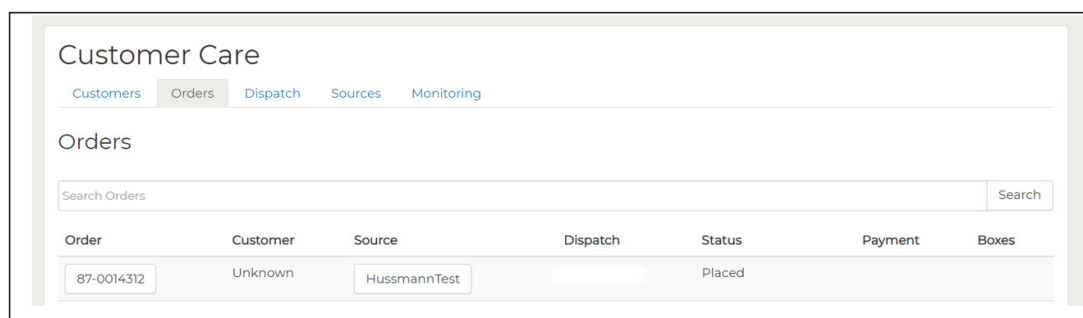
After clicking confirm, the print label should pop up. There is the option to print a receipt of label associated with this order. This step is optional and can be setup at any time. Click Done to complete the reservation process.



Here is a sample of the print confirmation from the reservation process. It can be connected to any printer in the network.



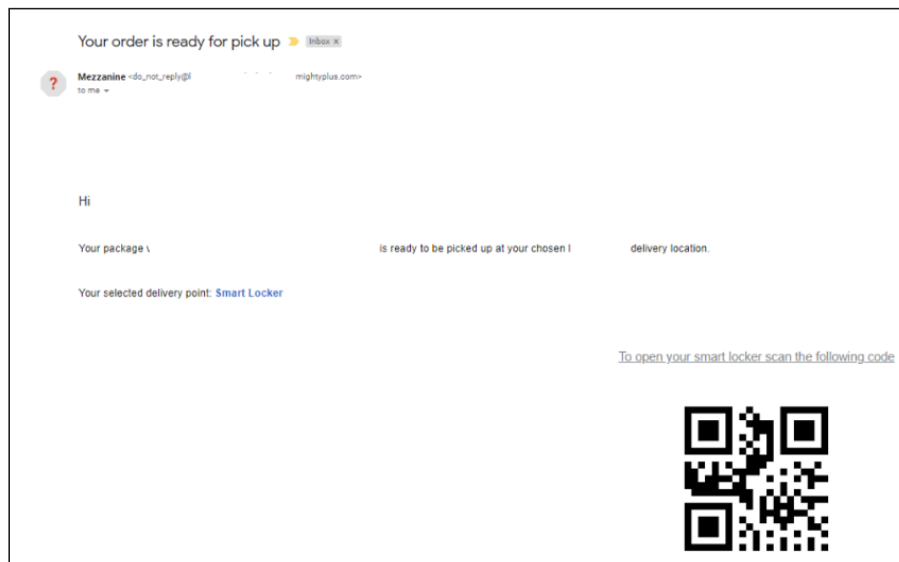
Once reservation has been completed, the order is available at the Orders Tab Status: “Placed”. Click on the order # to display the details of that order as well as the randomly generated PINs, which are allocated for driver and customer.



As a default, the Smart Exchange Locker does not stand or manage any notifications including PIN/QR to the end customer or driver, but it is capable of handling this task via email and SMS if the retailer chooses to do so.



Below are the screen shots of the customer email notification. This notification is sent once order is ready for pickup. The email provides information about the location for pickup as well as a QR code/ PIN for scanning. Locker pickup cycle will be completed after customer picks up order.



## ADDITIONAL RESOURCES

The below image features the details of the order(s) placed including PIN details, customer information, tracking information for the reservations and captured images feature below will download the image taken every time the locker user enters a valid PIN at the terminal for proof purposes.

First Name Last Name Street Address City State Zip Code Country Billing Phone Billing Email Billing Buzzer	<div>Captured images</div> <div>Fetch images</div> <div>PIN Control</div> <div>Customer PIN 3 6 8 7 2 8 Reset PIN</div> <div>Driver PIN 1 8 6 7 6 6 Reset PIN</div>
---	---

Packages	
No courier assigned	
@Medium package	
No courier assigned	
*Medium package	
No courier assigned	
*Medium package	

Tracking	
Date	Description
2019-11-13 16:47:10	State changed into Placed
2019-11-13 16:48:38	Picked Up from kiosk on 11/13/2019 13:48:26

Street Address

City

State

Zip Code

Country

Billing Phone

Billing Email

Billing Buzzer



#### PIN Control

Customer PIN

- - -

Reset PIN

Driver PIN

- - -

Reset PIN

#### Tracking

Date	Description
2020-04-30 15:08:48	State changed into Placed
2020-04-30 15:56:04	Loaded into kiosk on 04/30/2020 12:55:25

From the locker management tool, the user account has the capability to remotely view and manipulate the doors on the locker.

- Door: Door number. The Smart Exchange is modular. It is typical to increase the number of doors by adding a module.
- State: Door is Open or Closed.
- Action: Unlock the door mechanical lock and will reengage automatically after a period. Note the doors self-ajar feature do not require pushing the door shut after opening.
- Available: Show the status of the door to be able to accept reservations. Often this is used to disable a door due to maintenance (spillage) or door malfunction.
- Type: Three temperatures Ambient, Fridge and Freezer
- Size: Only Medium size available at this time.
- Order: Displays any order associated or being occupied at this time inside the door.

Door	State	Action	Available	Type	Size	Order
1	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
2	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
3	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
4	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
5	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
6	⊙ Closed	Unlock	✓ Available	Ambient	Medium	Order #1826
7	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
8	⊙ Closed	Unlock	✓ Available	Ambient	Medium	No Order
9	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
10	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
11	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
12	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
13	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
14	⊙ Closed	Unlock	✓ Available	Fridge	Medium	Order #1826
15	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
16	⊙ Closed	Unlock	✓ Available	Fridge	Medium	No Order
17	⊙ Closed	Unlock	✓ Available	Freezer	Medium	No Order

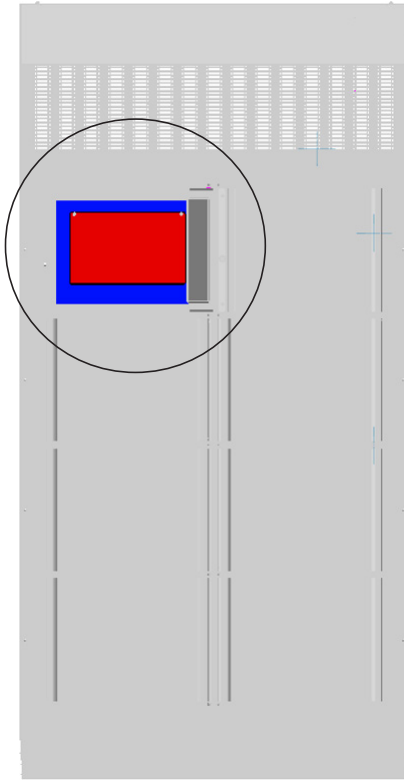
**5-10**

NOTES:

# MAINTENANCE

## BACK PANEL ACCESS

Each door has a back panel access for cleaning.



## CARE AND CLEANING

Long life and satisfactory performance of any product is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, these locker compartments should be thoroughly cleaned, all debris removed, and the interior lockers washed down, weekly.

### Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents, ammonia-based cleaners and sanitizing solutions with no harm to the surface.

### Exterior Surfaces

The exterior surfaces should be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. Never use abrasive cleansers or scouring pads.

#### Do Not:

- Use abrasive cleansers and scouring pads, as these will mar the finish.
- Use ammonia-based cleaners on acrylic parts.
- Use solvent, oil or acidic based cleaners on any interior surfaces.
- Use steam or high-water pressure hoses to wash the interior. These will destroy the lockers' sealing causing leaks and poor performance.

#### Do:

- Remove the product and all loose debris.
- Store product in a refrigerated area such as a freezer. Remove only as much product as can be taken to the freezer in a timely manner.
- First turn off refrigeration, then disconnect electrical power.
- Thoroughly clean all surfaces with soap and hot water.

- Clean and disinfect locker compartments frequently. To disinfect, use Environmental Protection Agency List N disinfectants, diluted household bleach solutions prepared according to the manufacturer's label for disinfection, or alcohol solutions with at least 70% alcohol, and are appropriate for the surface. Allow the compartments to dry before resuming operation.
- After cleaning is completed, turn on power and refrigerant to the merchandiser.
- Verify that merchandiser is working properly.

## CLEANING STAINLESS STEEL SURFACES

Use non-abrasive cleaning materials, and always polish with grain of the steel. Use warm water or add a mild detergent to the water and apply with a cloth. Always wipe rails dry after wetting.

Use alkaline chlorinated or non-chlorine containing cleaners such as window cleaners and mild detergents. Do not use cleaners containing salts as this may cause pitting and rusting of the stainless-steel finish. Do not use bleach.

Clean frequently to avoid build-up of hard, stubborn stains. A stainless-steel cleaning solution may be used periodically to minimize scratching and remove stains. Rinse and wipe dry immediately after cleaning. Never use hydrochloric acid (muriatic acid) on stainless steel.

## CLEANING COILS

### NEVER USE SHARP OBJECTS AROUND COILS

Use a soft brush or vacuum brush to clean debris from coils. Do not puncture coils!

Do not bend fins. Contact an authorized service technician if a coil is punctured, cracked, or otherwise damaged.

Do NOT use chlorine or ammonia-based cleaners to clean aluminum coils.

Ice in or on the coil indicates the refrigeration and defrost cycle is not operating properly. Contact an authorized service technician to determine the cause of icing, and to adjust as necessary. To maintain product integrity, move all product to a cooler until the locker assembly has returned to normal operating temperatures.

Condenser coils should be cleaned at least once per month. Additional cleaning may be needed depending on the operational environment. A dirty condenser blocks normal airflow through the coils. Airflow blockage increases energy consumption and reduces the merchandiser's ability to maintain operating temperature.

To clean the coils, use a vacuum cleaner with a wand attachment and a soft (non-metallic) brush to remove dirt and debris. Do not bend coil fins. Always wear gloves and protective eye wear when cleaning near sharp coil fins and dust particles.

## CLEANING CONDENSATE CATCH PAN

A condensate pan is located in the top behind the condensing coil. The condensate pan catches defrost water and allows it to evaporate.

This pan should be cleaned periodically by vacuuming it out or with soap and water. This pan should be inspected and cleaned on the same cycle as the condensing coils.

## WARNING

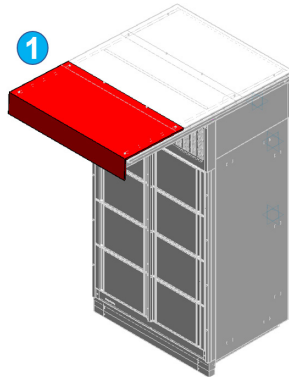
Condensate is evaporated from this pan using heat from the compressor discharge lines that pass through the pan. Extreme care should be taken in cleaning and servicing the condensate pan to not damage these refrigerant lines.

# SERVICE

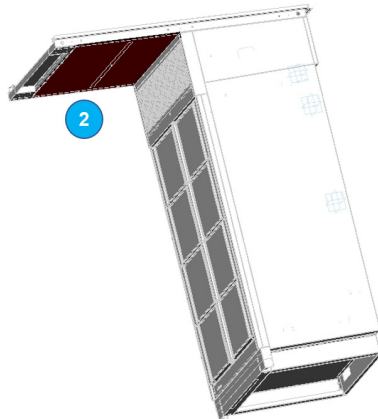
## REFRIGERATED MODULE COMPONENT ACCESS (Outdoor Locker)

### STEPS:

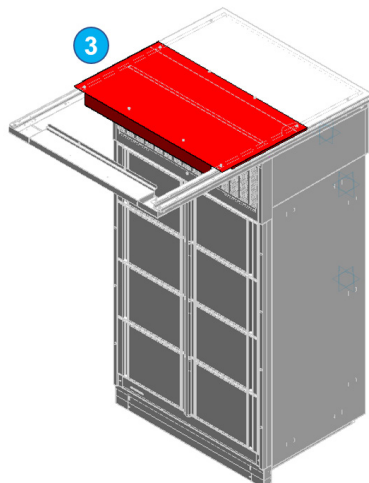
1. Remove front exterior panel.



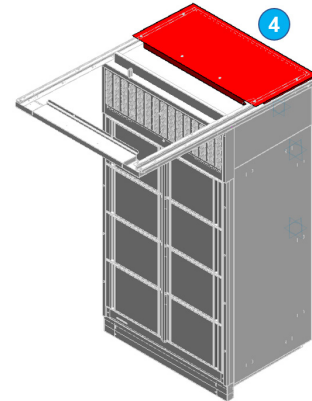
2. Remove interior top panel.



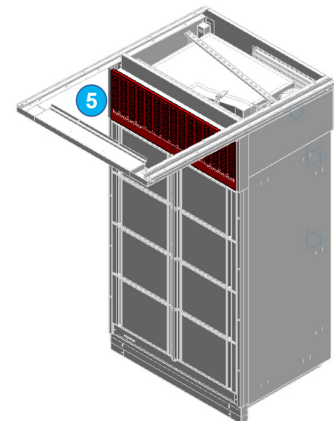
3. Remove middle exterior top panel.



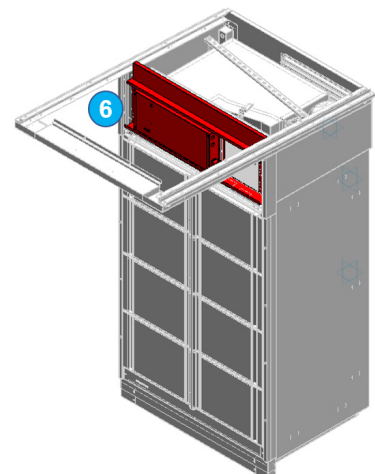
4. Remove rear exterior top panel.



5. Remove rear exterior top panel.



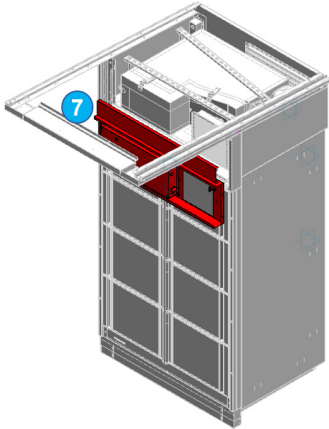
6. Remove electrical box.



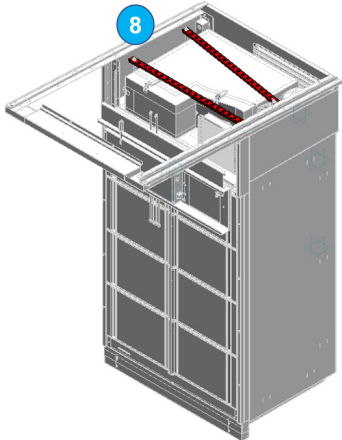


## LOCKER COMPONENT ACCESS (Outdoor Locker)

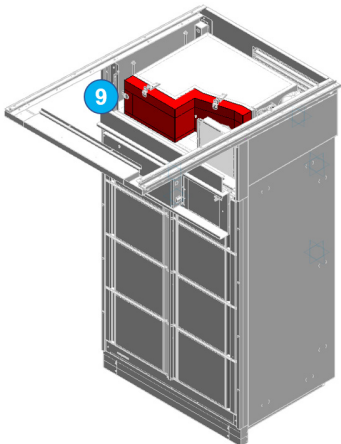
7. Place electrical box frame in door cut-outs for servicing.



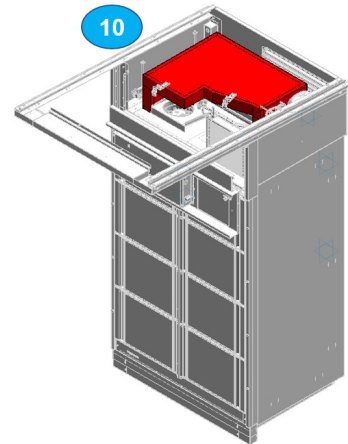
8. Remove top shell tie-down brackets.



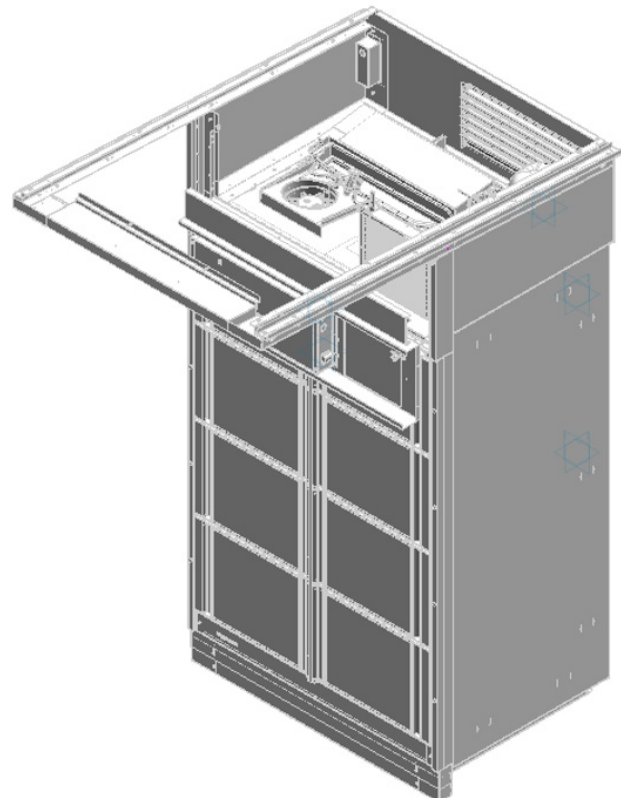
9. Remove top shell front cover.



10. Remove top shell.



Refrigeration system is now open for servicing.

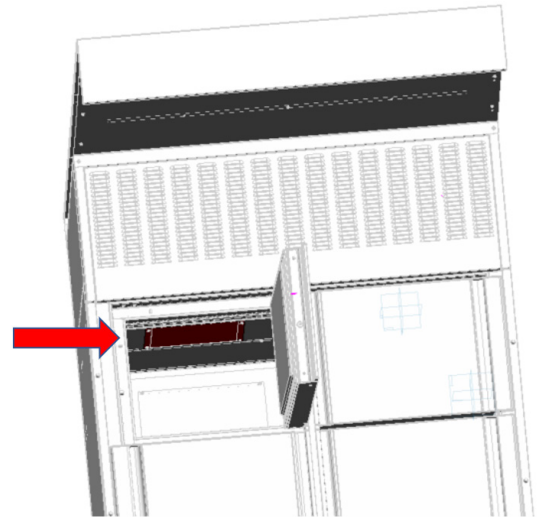
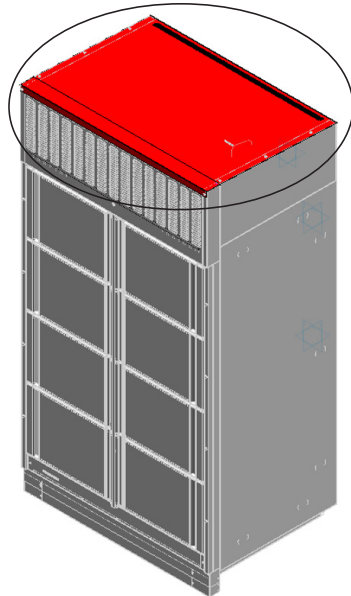


**LOCKER COMPONENT ACCESS**

(Indoor Locker)

**STEPS:**

1. Remove front exterior panel.
2. Follow Step 5-10 of outdoor component access instructions, starting on Page 7-1.

**REPLACING FAN MOTORS AND BLADES**

Should it ever be necessary to service or replace the fan motors or blades be certain that the fan blades are re-installed correctly.

**Fan Access:**

1. Disconnect power to the locker assembly.
2. Remove evaporator fan access panel.
3. Remove plug clip and disconnect fan from wiring harness.
5. Remove screws holding fan motor/bracket assembly to plenum and remove assembly.
6. Replace fan motor/bracket assembly and reinstall screws.
7. Reconnect fan to wiring harness and replace plug clip.
8. Turn on power.

9. Verify that motors are working, and blades are turning in the correct direction.

## **WARNING**

Before Beginning Any Service or Repair:

Verify that all repair parts are identical models to the ones they are replacing. Do not substitute parts such as motors, switches, relays, heaters, compressors, power supplies or solenoids.

Use only Hussmann approved parts approved through the Hussmann Performance Parts Website:

<https://parts.hussmann.com/>

## REPLACING ELECTRIC DEFROST HEATERS for SLOL and SLIL models

Electric defrost requires a heater on the front and rear of the coil as shown in Figure 7-1. The heaters are held in place by the coil brackets and/or wire clips. To replace heater do the following steps:

### Front and Rear Defrost Heaters

1. Disconnect power to the locker assembly.
2. Remove evaporator section panels
3. Remove heater.
4. Install new heater, clips and make electrical connections.
5. Replace the coil cover.
6. Turn on power.
7. Verify heater is operating properly.

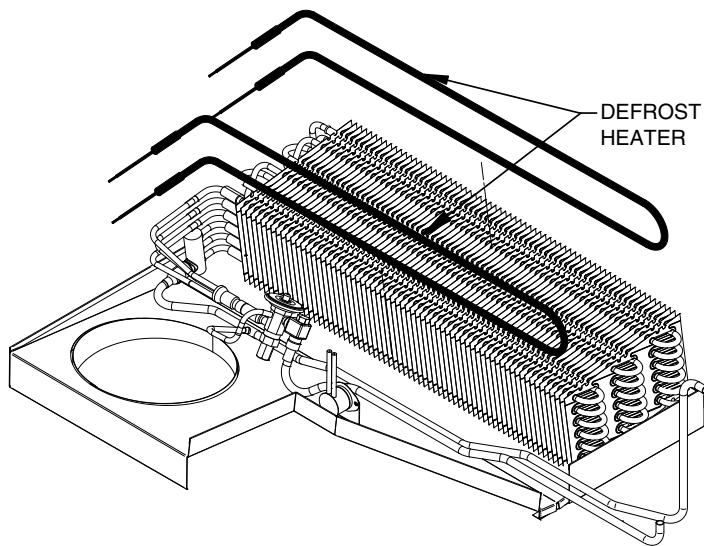


Figure 7-1 Front & Rear Defrost Heaters

## REPLACING DRAIN PAN HEATER

### Remove Drain Pan Heater

1. Disconnect power.
2. Pull heater out from integrated trap
3. Install new heater on evaporator pan surface and through the drain trap.
4. Reconnect power.
5. Verify that heater is working correctly.

## REPLACING ELECTRIC COMPARTMENT HEATERS

for models SLOM, SLOA.

Outdoor medium temperature and ambient temperature refrigerated modules require a heater in front of the coil as shown. These heaters are held down to the evaporator pan with screws.

1. Disconnect power to the locker assembly.
2. Remove evaporator section panels
3. Remove heater.
4. Install new heater and make electrical connections.
5. Replace the coil cover.
6. Turn on power.
7. Verify heater is operating properly.

## REPLACING DOOR GASKETS

Replace door gaskets with like gaskets if they become worn, or do not work correctly.



Figure 7-2 Door Gasket

CORELINK SETPOINT FOR REFRIGERATED MODULES  
(AMBIENT TEMPERATUR)  
FACTORY SETTINGS

APPENDIX

System	Family Model	SLOA8
	Name	TBD
	IP Address	TBD
	Type	Locker
	Temperature	*F
	Pressure	PSI
	Refrigerant	R513A
	Valve Drive	None
	Number of Zones	1 Zone
	Door Type	Locker
Refrigeration		
Control Mode	Control Mode	Standard
	Set Point	65
	Deadband	10
Temperature Sensors		
	Control Mix	Coil 1
	Control Temp Mode	Distributed
Compressor Safeties		
	Max Run Time Comp 1	0
Locker		
	Locker Upper Cool	75
	Lower Warm	55
	Locker Seasonal Switch	Enable
	Heater Output 1 Duty Cycle	50
Compressor		
Primary Comp Protection		
	Primary Protection	Switch
	Primary Lockout Time	20
	Count Threshold	5
	Primary Restart Delay	15
	Num of Primary Lockout Restarts	1
Secondary Compressor Protection		
	Secondary Protection	None
Compressor Suction Protection		
	Suction Pressure Switch	Enable
Suction Failsafe Delay		
	Pressure Switch Time Delay	300
	Alarm Count	20
	Compressor Run Time Safeties	5
	Compressor Run Time Mode 1	Off
	Max Run Time Comp 1	0
	Min Compressor ON Time Delay	0
	Max Compressor OFF Time Delay	0
	Failsafe Compressor ON Time	20
	Failsafe Compressor OFF Time	5

Defrost	Defrost Mode	None
	Termination	-
	Termination Temp Sensor	-
	Term Temp Set Point	-
	Defrost Time Mode	-
	Defrost Interval	-
	Defrost Start Time	-
	Defrost Per Day	-
	Dual Temp Defrost Output	-
	Defrost Delay	-
	Min Defrost	-
	Max Defrost	-
	Drip Time	-
	Max Wait	-
Fans		
Evaporator Fan Settings		
	Fan Mode	On Continuous - On Defrost
	Dual Temp Fan Mode	On Continuous - On Defrost
	Fan Operation After Defrost	Not Used
Condenser Fan Settings		
	Fan Mode	On Refrig - Off Defrost
	Pressure Control Mode	Disable
Alarms		
	High Temp	10
	Low Temp	10
	Alarm Hysteris	0
	Alarm Delay	60
	Dual Temp Mode	Off
	Alarm Options	Relative
Frame Temp Alarm Settings		
	Frame High Temp	90
	Frame Low Temp	40
	Hysteris	0
	Delay	30
Anti-Sweat Control		
	DASH Control Type	Standard Control
	Dew SP	50
	Dew Prop Band	18
	Max Output	60
	Min Output	0

Digital In	DIC01 (Pin 20)	Relay Configuration	Polarity
	DIC02 (Pin 21)	Not Used	Open
	DIC03 (Pin 22)	Not Used	Open
	DIC04 (Pin 23)	Not Used	Open
	DIC05 (Pin 24)	Not Used	Open
	DIC06 (Pin 25)	Not Used	Open
	DIC07 (Pin 26)	Not Used	Open
	DIC08 (Pin 27)	Not Used	Open
	DIC09 (Pin 28)	Not Used	Open
	DIC10 (Pin 29)	Comp Suction 1 Safety Switch	Close
	DIC11 (Pin 30)	Comp Disch 1 Safety Switch	Close
Digital Out		Configuration	Polarity
	RLC01 (Pin 42)	Not Used	Close
	RLC02 (Pin 43)	Cond Fan	Close
	RLC03 (Pin 44)	Evap Fan	Close
	RLC04 (Pin 45)	Not Used	Close
	RLC05 (Pin 46)	Not Used	Open
	RLC06 (Pin 49)	Refrigeration 1	Close
	RLC07 (Pin 50)	Not Used	Open
	RLC08 (Pin 51)	Not Used	Open
Analog Input		Configuration	Offset
	ALC01 (Pin 2)	Discharge Air 1	0
	ALC02 (Pin 3)	Defrost Terminate 1	0
	ALC03 (Pin 4)	Comp Disch Press 1	0
	ALC04 (Pin 10)	Condenser Outlet Sensor	0
	ALC05 (Pin 11)	Frame Temp	0
	ALC06 (Pin 12)	Compressor Suction Pressure	0
Analog Output		Configuration	Type
	AOC01 (Pin 7)	Heater 1	0..10V
	AOC02 (Pin 8)	Anti-Sweat	0..10V
	AOC03 (Pin 15)	Not Used	
	AOC04 (Pin 16)	Not Used	
HSVD20			
	Probe Value at 4mA or 0V	0	
	Probe Value at 20mA or 5V	500	
HSVD30			
	Probe Value at 4mA or 0V	0	
	Probe Value at 20mA or 5V	500	

CORELINK SETPOINT FOR REFRIGERATED MODULES  
(MEDIUM TEMPERATURE)  
FACTORY SETTINGS

Refrigeration	Family Model	SLOM8
	Name	TBD
	IP Address	TBD
	Type	Locker
	Temperature	°F
	Pressure	PSI
	Refrigerant	R513A
	Valve Drive	None
	Number of Zones	1 Zone
	Door Type	Locker
Control Mode	Control Mode	Standard
	Set Point	33
	Deadband	5
Temperature Sensors	Control Mix	Coil 1
	Control Temp Mode	Distributed
Compressor Safeties	Max Run Time Comp 1	0
	Locker Upper Cool	40
Locker	Locker Lower Warm	28
	Locker Seasonal Switch	Enable
	Heater Output 1 Duty Cycle	50
Compressor		
Primary Comp Protection	Primary Protection	Switch
	Primary Lockout Time	20
	Count Threshold	5
	Primary Restart Delay	15
Num of Primary Lockout Restarts		1
Secondary Compressor Protection	Secondary Protection	None
Compressor Suction Protection	Suction Pressure Switch	Enable
		300
Suction Failsafe Delay	Pressure Switch Time Delay	20
	Alarm Count	5
Compressor Run Time Safeties	Compressor Run Time Mode 1	Off
	Max Run Time Comp 1	0
	Min Compressor ON Time Delay	0
	Max Compressor OFF Time Delay	0
Failsafe Compressor ON Time		20
	Failsafe Compressor OFF Time	5

P/N 3110238\_B

Defrost	Defrost Mode	Off Cycle Defrost
	Termination	-
	Termination Temp Sensor	-
	Term Temp Set Point	-
	Defrost Time Mode	Specific Start Time
	Defrost Interval	6
	Defrost Start Time	10:00 AM
	Defrost Per Day	4
	Dual Temp Defrost Output	Disable
Defrost Delay	Min Defrost	-
	Max Defrost	35
	Drip Time	-
	Max Wait	-
Fans		
Evaporator Fan Settings	Fan Mode	On Refrig - On Defrost
	Dual Temp Fan Mode	On Refrig - On Defrost
	Fan Operation After Defrost	Not Used
Condenser Fan Settings		
Pressure Control Mode	Fan Mode	On Refrig - Off Defrost
		Disable
Alarms	High Temp	10
	Low Temp	10
	Alarm Hysteris	0
	Alarm Delay	60
Dual Temp Mode		Off
	Alarm Options	Relative
Frame Temp Alarm Settings	Frame High Temp	90
	Frame Low Temp	40
	Hysteresis	0
	Delay	30
Anti-Sweat Control		
	DASH Control Type	Standard Control
	Dew SP	50
Dew Prop Band		18
	Max Output	60
	Min Output	0

Digital In	DIC01 (Pin 20)	Not Used	Polarity	Open
	DIC02 (Pin 21)	Not Used	Open	
	DIC03 (Pin 22)	Not Used	Open	
	DIC04 (Pin 23)	Not Used	Open	
	DIC05 (Pin 24)	Not Used	Open	
	DIC06 (Pin 25)	Not Used	Open	
	DIC07 (Pin 26)	Not Used	Open	
	DIC08 (Pin 27)	Not Used	Open	
	DIC09 (Pin 28)	Not Used	Open	
	DIC10 (Pin 29)	Comp Suction 1 Safety Switch	Close	
Digital Out	DIC11 (Pin 30)	Comp Disch 1 Safety Switch	Close	
Analog Input				
	ALC01 (Pin 2)	Discharge Air 1	Offset	Type
	ALC02 (Pin 3)	Defrost Terminate 1	0	CPC
	ALC03 (Pin 4)	Comp Disch Press 1	0	CPC
	ALC04 (Pin 10)	Condenser Outlet Sensor	0	CPC
	ALC05 (Pin 11)	Frame Temp	0	CPC
Analog Output	ALC06 (Pin 12)	Compressor Suction Pressure	0	0.5V
HSVD20				
HSVD30				

CORELINK SETPOINT FOR REFRIGERATED MODULES  
(LOW TEMPERATURE)  
FACTORY SETTINGS

CoreLink  
File Name: SLOL8\_R448a  
Date : 7/22/2020  
Model : XPG208D  
Part Number: 3130095  
Note: Software changes do occur - Please validate parameters are up to date

APPENDIX

<b>System</b>	Family Model	SLOL8
	Name	TBD
	IP Address	TBD
	Type	Locker
	Temperature	°F
	Pressure	PSI
	Refrigerant	R448A
	Valve	None
	Number of Zones	1 Zone
	Door Type	Locker
<b>Refrigeration</b>		
<b>Control Mode</b>	Control Mode	Standard
	Set Point	-10
	Deadband	8
<b>Temperature Sensors</b>		
	Control Mix	Coil 1
	Control Temp Mode	Distributed
<b>Compressor Safeties</b>		
	Max Run Time Comp 1	0
<b>Locker</b>		
	Locker Upper Cool	2
	Lower Warm	-40
	Locker Seasonal Switch	Enable
	Heater Output 1 Duty Cycle	40
<b>Compressor</b>		
<b>Primary Comp Protection</b>		
	Primary Protection	Switch
	Primary Lockout Time	20
	Count Threshold	5
	Primary Restart Delay	15
	Num of Primary Lockout Restarts	1
<b>Secondary Compressor Protection</b>		
	Secondary Protection	None
<b>Compressor Suction Protection</b>		
	Suction Pressure Switch	Enable
<b>Suction Failsafe Delay</b>		
	Suction Pressure Switch	300
	Pressure Switch Time Delay	20
	Alarm Count	5
	Compressor Run Time Safeties	
	Compressor Run Time Mode 1	Off
	Max Run Time Comp 1	0
	Min Compressor ON Time Delay	0
	Max Compressor OFF Time Delay	0
	Failsafe Compressor ON Time	20
	Failsafe Compressor OFF Time	5

<b>Defrost</b>	Defrost Mode	Elec
	Termination	Temp
	Termination Temp Sensor	Defrost Terminate
	Term Temp Set Point	36
	Defrost Time Mode	Specific Start Time
	Defrost Interval	12
	Defrost Start Time	10:00 AM
	Defrost Per Day	2
	Dual Temp Defrost Output	Disable
	Defrost Delay	1
	Min Defrost	15
	Max Defrost	60
	Drip Time	15
	Max Wait	1
<b>Fans</b>		
<b>Evaporator Fan Settings</b>		
	Fan Mode	On Refrig - Off Defrost
	Dual Temp Fan Mode	On Refrig - Off Defrost
	Fan Operation After Defrost	Not Used
<b>Condenser Fan Settings</b>		
	Fan Mode	On Refrig - Off Defrost
	Pressure Control Mode	Disable
<b>Alarms</b>		
	High Temp	15
	Low Temp	10
	Alarm Hysteris	0
	Alarm Delay	60
	Dual Temp Mode	Off
	Alarm Options	Relative
<b>Frame Temp Alarm Settings</b>		
	Frame High Temp	90
	Frame Low Temp	40
	Hysteresis	0
	Delay	30
<b>Anti-Sweat Control</b>		
	DASH Control Type	Standard Control
	Dew SP	50
	Dew Prop Band	18
	Max Output	100
	Min Output	15

<b>Digital In</b>	DIC01 (Pin 20)	Not Used	Polarity	Open
	DIC02 (Pin 21)	Not Used	Polarity	Open
	DIC03 (Pin 22)	Not Used	Polarity	Open
	DIC04 (Pin 23)	Not Used	Polarity	Open
	DIC05 (Pin 24)	Not Used	Polarity	Open
	DIC06 (Pin 25)	Not Used	Polarity	Open
	DIC07 (Pin 26)	Not Used	Polarity	Open
	DIC08 (Pin 27)	Not Used	Polarity	Open
	DIC09 (Pin 28)	Not Used	Polarity	Open
	DIC10 (Pin 29)	Comp Suction 1 Safety Switch	Polarity	Closed
	DIC11 (Pin 30)	Comp Disch 1 Safety Switch	Polarity	Closed
<b>Digital Out</b>				
	RLC01 (Pin 42)	Not Used	Polarity	Open
	RLC02 (Pin 43)	Cond Fan	Polarity	Close
	RLC03 (Pin 44)	Evap Fan	Polarity	Close
	RLC04 (Pin 45)	Drain Pan Heater	Polarity	Close
	RLC05 (Pin 46)	Not Used	Polarity	Open
	RLC06 (Pin 49)	Refrigeration	Polarity	Close
	RLC07 (Pin 50)	Not Used	Polarity	Open
	RLC08 (Pin 51)	Not Used	Polarity	Open
<b>Analog Input</b>				
	ALC01 (Pin 2)	Discharge Air 1	Offset	0
	ALC02 (Pin 3)	Defrost Termination	Offset	0
	ALC03 (Pin 4)	Comp Disch Press 1	Offset	0
	ALC04 (Pin 10)	Condenser Outlet Sensor	Offset	0
	ALC05 (Pin 11)	Frame Temp	Offset	0
	ALC06 (Pin 12)	Compressor Suction Pressure	Offset	0
<b>Analog Output</b>				
	AOC01 (Pin 7)	Heater 1	Type	0..10V
	AOC02 (Pin 8)	Anti-Sweat	Type	0..10V
	AOC03 (Pin 15)	Not Used	Type	
	AOC04 (Pin 16)	Not Used	Type	
<b>HSVD20</b>				
	Probe Value at 4mA or 0V	0		
	Probe Value at 20mA or 5V	500		
<b>HSVD30</b>				
	Probe Value at 4mA or 0V	0		
	Probe Value at 20mA or 5V	500		



SENSOR REISTANCE AND PRESSURE

Sensor Resistance

NTC  
10K Temperature Sensor

Temperature (°F)	Temperature (°C)	Resistance Ω
-40	-40	336,450
-30	-34	234,170
-20	-29	165,210
-10	-23	118,060
0	-18	85,399
10	-12	62,493
20	-7	46,235
30	-1	34,565
40	4	26,100
50	10	19,899
60	16	15,311
70	21	11,883
80	27	9,299
90	32	7,334
100	38	5,828
110	43	4,664
120	49	3,758
130	54	3,048
140	60	2,488
150	66	2,042
160	71	1,686
170	77	1,400
180	82	1,169
190	88	981
200	93	827

Pressure Sensor

0-5V  
Pressure Sensor

Volts	0-150 PSI	0-200 PSI	0-300 PSI	0-500 PSI	0-650 PSI
0	0	0	0	0	0
0.2	6	8	12	20	26
0.4	12	16	24	40	52
0.6	18	24	36	60	78
0.8	24	32	48	80	104
1	30	40	60	100	130
1.2	36	48	72	120	156
1.4	42	56	84	140	182
1.6	48	64	96	160	208
1.8	54	72	108	180	234
2	60	80	120	200	260
2.2	66	88	132	220	286
2.4	72	96	144	240	312
2.6	78	104	156	260	338
2.8	84	112	168	280	364
3	90	120	180	300	390
3.2	96	128	192	320	416
3.4	102	136	204	340	442
3.6	108	144	216	360	468
3.8	114	152	228	380	494
4	120	160	240	400	520
4.2	126	168	252	420	546
4.4	132	176	264	440	572
4.6	138	184	276	460	598
4.8	144	192	288	480	624
5	150	200	300	500	650



# **HUSSmann®**

To obtain warranty information  
or other support, contact your  
Hussmann representative.

Please include the model and  
serial number of the product.

**Husmann Corporation**

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