

# USER GUIDE & SERVICE MANUAL

SAFETY • INSTALLATION & INTEGRATION • OPERATING INSTRUCTIONS • MAINTENANCE • SERVICE



**U-LINE**

RIGHT PRODUCT. RIGHT PLACE. RIGHT TEMPERATURE. SINCE 1962.

Modular 3000 Series • 3024DWR • 24" Drawer Model

**Tip:** Click on any section below to jump directly there

## Contents

Intro

Warranty

## Safety

Safety and Warning

Disposal and Recycling

## Installation

Environmental Requirements

Electrical

Cutout Dimensions

Product Dimensions

Side by Side Installation

Anti-Tip Bracket

General Installation

Integrated Grille / Plinth Dimensions

Grille / Plinth Installation

Drawers

## Service Extended

Wire Diagram

Product Liability

Warranty Claims

Parts

Ordering Replacement Parts

System Diagnosis Guide

Compressor Specifications

Troubleshooting Extended

Control Quick Guide

Thermistor

Defrost

Remove Fan and Cover

## Operating Instructions

First Use

Control Operation

Sabbath Mode

Airflow and Product Loading

## Maintenance

Cleaning

Cleaning Condenser

Extended Non-Use

## Service

Troubleshooting

---

## WELCOME TO U-LINE

Congratulations on your U-Line purchase. Your product comes from a company with over five decades of premium modular ice making, refrigeration, and wine preservation experience. U-Line continues to be the American leader, delivering versatility and flexibility for multiple applications including residential, light commercial, outdoor and marine use. U-Line's complete product collection includes Wine Captain® Models, Beverage Centers, Clear Ice Machines, Crescent Ice Makers, Glass & Solid Door Refrigerators, Drawer Models, Freezers, Combo® Models, and more.

U-Line has captivated those with an appreciation for the finer things with exceptional functionality, style, inspired innovations and attention to even the smallest details. We are known and respected for our unwavering dedication to product design, quality and selection. U-Line is headquartered in Milwaukee, Wisconsin and has shipped product to five continents for over two decades and is proud to have the opportunity to ship to you.

## PRODUCT INFORMATION

Looking for additional information on your product? User Guides, Spec Sheets, CAD Drawings, Compliance Documentation, and Product Warranty information are all available for reference and download at [u-line.com](http://u-line.com).

## PROPERTY DAMAGE / INJURY CONCERNS

In the unlikely event property damage or personal injury is suspected related to a U-Line product, please take the following steps:

1. U-Line Customer Care must be contacted immediately at +1.800.779.2547.
2. Service or repairs performed on the unit without prior written approval from U-Line is not permitted. If the unit has been altered or repaired in the field without prior written approval from U-Line, claims will not be eligible.

## GENERAL INQUIRIES

U-Line Corporation  
8900 N. 55th Street  
Milwaukee, Wisconsin 53223 USA  
Monday - Friday 8:00 am to 4:30 pm CST  
T: +1.414.354.0300  
F: +1.414.354.7905  
Email: [sales@u-line.com](mailto:sales@u-line.com)  
[u-line.com](http://u-line.com)

## SERVICE & PARTS ASSISTANCE

Monday - Friday 8:00 am to 4:30 pm CST  
T: +1.800.779.2547  
F: +1.414.354.5696  
Service Email: [onlineservice@u-line.com](mailto:onlineservice@u-line.com)  
Parts Email: [onlineparts@u-line.com](mailto:onlineparts@u-line.com)

## CONNECT WITH US



Designed, engineered and assembled in WI, USA

## Safety and Warning

### NOTICE

**Please read all instructions before installing, operating, or servicing the appliance.**

Use this appliance for its intended purpose only and follow these general precautions with those listed throughout this guide:

### SAFETY ALERT DEFINITIONS

Throughout this guide are safety items labeled with a Danger, Warning or Caution based on the risk type:

#### **DANGER**

**Danger means that failure to follow this safety statement will result in severe personal injury or death.**

#### **WARNING**

**Warning means that failure to follow this safety statement could result in serious personal injury or death.**

#### **CAUTION**

**Caution means that failure to follow this safety statement may result in minor or moderate personal injury, property or equipment damage.**

#### **DANGER**

**This unit contains R600a (Isobutane) which is a flammable hydrocarbon. It is safe for regular use. Do not use sharp objects to expedite defrosting. Do not service without consulting the “R600a specifications” section included in the User Guide. Do not damage the refrigerant circuit.**

#### **WARNING**

**Service must be done by factory authorized service personnel. Any parts shall be replaced with like components. Failure to comply could increase the risk of possible ignition due to incorrect parts or improper service.**



## Disposal and Recycling

### **DANGER**

**RISK OF CHILD ENTRAPMENT. Before you throw away your old refrigerator or freezer, take off the doors and leave shelves in place so children may not easily climb inside.**

If the unit is being removed from service for disposal, check and obey all federal, state and local regulations regarding the disposal and recycling of refrigeration appliances, and follow these steps completely:

1. Remove all consumable contents from the unit.
2. Unplug the electrical cord from its socket.
3. Remove the door(s)/drawer(s).

## Environmental Requirements

This model is intended for indoor/interior applications only and is not to be used in installations that are open/exposed to natural elements.

This unit is designed to operate between 50°F (10°C) and 100°F (38°C). Higher ambient temperatures may reduce the unit's ability to reach low temperatures and/or reduce ice production on applicable models.

For best performance, keep the unit out of direct sunlight and away from heat generating equipment.

In climates where high humidity and dew points are present, condensation may appear on outside surfaces. This is considered normal. The condensation will evaporate when the humidity drops.



**Damages caused by ambient temperatures of 40°F (4°C) or below are not covered by the warranty.**

## Electrical



### **SHOCK HAZARD — Electrical Grounding**

**Required. Never attempt to repair or perform maintenance on the unit until the electricity has been disconnected.**

**Never remove the round grounding prong from the plug and never use a two-prong grounding adapter.**

**Altering, cutting or removing power cord, removing power plug, or direct wiring can cause serious injury, fire, loss of property and/or life, and will void the warranty.**

**Never use an extension cord to connect power to the unit.**

**Always keep your working area dry.**

### **NOTICE**

**Electrical installation must observe all state and local codes. This unit requires connection to a grounded (three-prong), polarized receptacle that has been placed by a qualified electrician.**

The unit requires a grounded and polarized 115 VAC, 60 Hz, 15A power supply (normal household current). An individual, properly grounded branch circuit or circuit breaker is recommended. A GFCI (ground fault circuit interrupter) is usually not required for fixed location appliances and is not recommended for your unit because it could be prone to nuisance tripping. However, be sure to consult your local codes.

See CUTOUT DIMENSIONS for recommended receptacle location.

## Cutout Dimensions

### PREPARE SITE

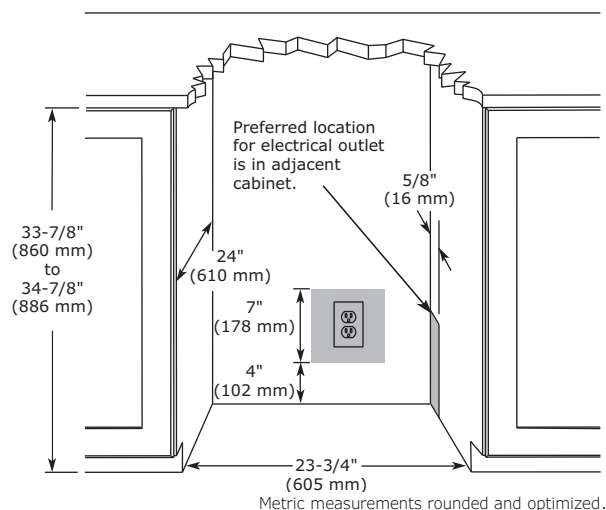
Your U-Line product has been designed exclusively for a built-in installation. When built-in, your unit does not require additional air space for top, sides, or rear. However, the front grille must NOT be obstructed.

The product is designed and manufactured for seamless integration in the specified cutout opening shown, which requires precise measurements. The opening must be square and plumb front to back. Although not required, you may choose to increase the overall cutout width for ease of installation.

The Modular 3000 Series units are engineered with a variety of adjustment features to help ensure a seamless installation. Adjustable doors, leveling legs and grille will assist in fine tuning the installation.

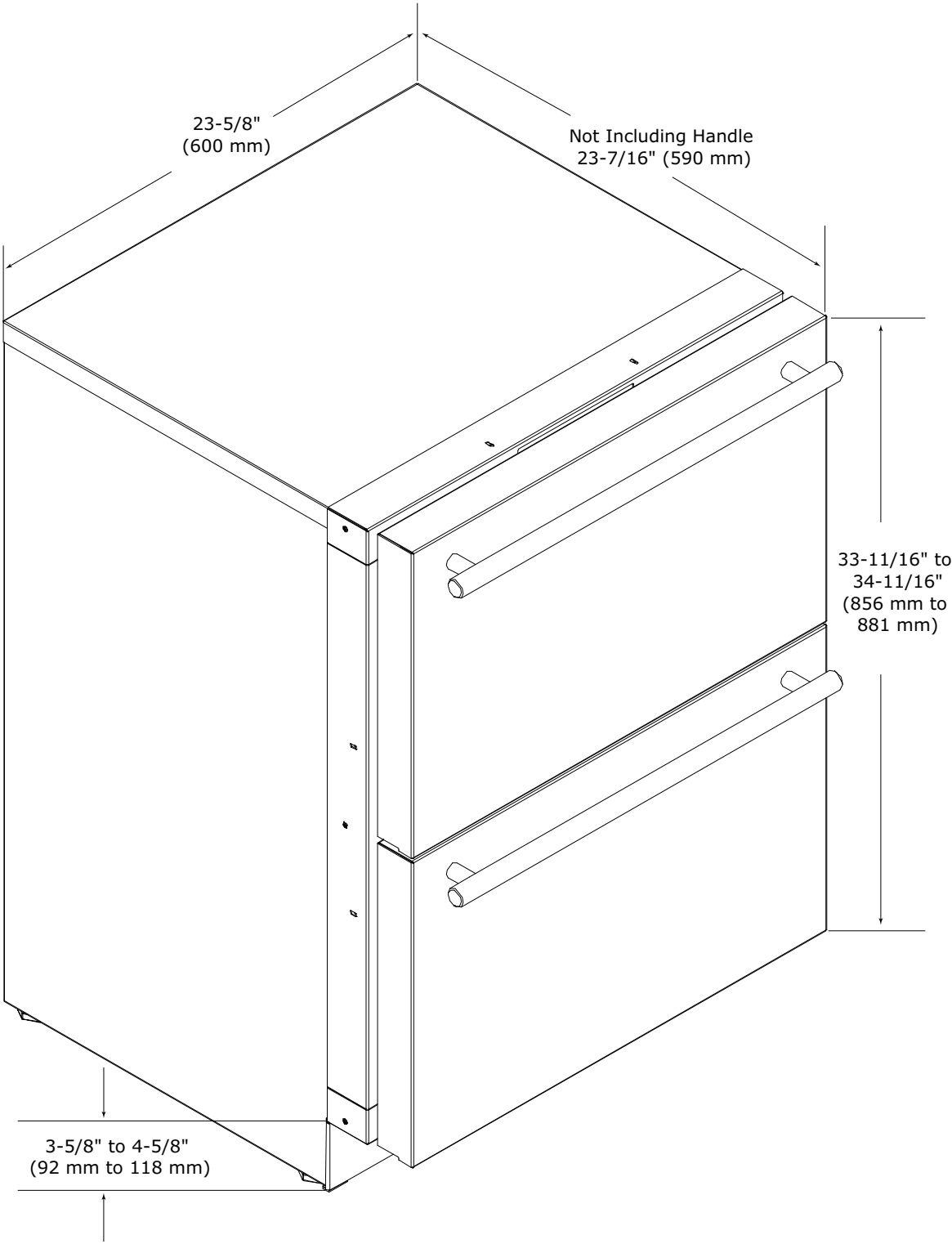
All 3000 Series models fully integrate into overlay/face frame, inset or European/frameless cabinet styles and install seamlessly into standard 24" (610 mm) depth cabinet base.

### CUTOUT DIMENSIONS



**Unit can NOT be installed behind a closed cabinet door.**

Product Dimensions





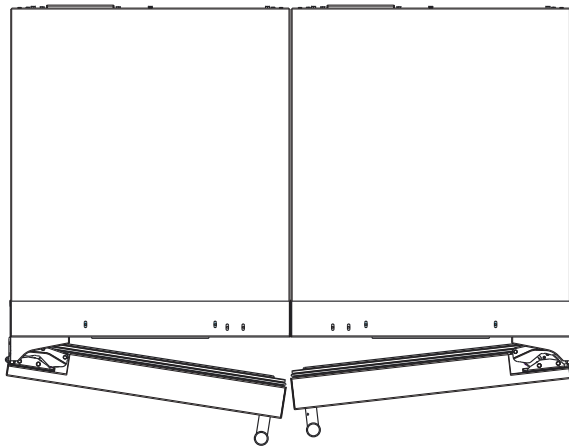
## Side-by-Side Installation

### OTHER SITE REQUIREMENTS

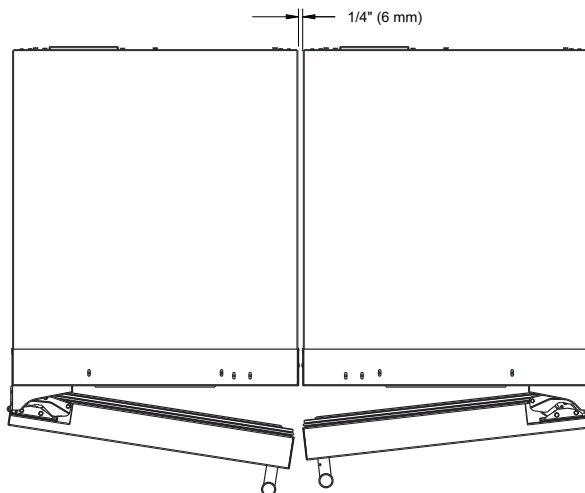
#### Side-by-Side Installation

Units must operate from separate, properly grounded electrical receptacles placed according to each unit's electrical specifications requirements.

Cutout width for a side-by-side installation is the total of the widths listed under Cutout Dimensions in each unit's Installation Guide. Each door can be opened individually (one at a time) without interference.

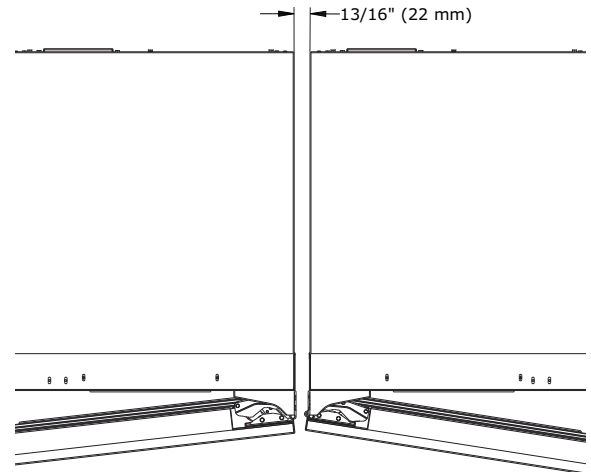


However, to ensure unobstructed door swing (opening both doors at the same time), 1/4" (6.4 mm) of space needs to be maintained between the units.

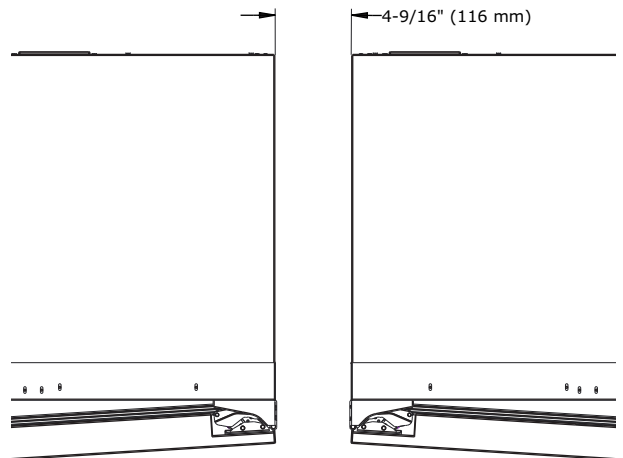


### Hinge-by-Hinge Installation (Mullion)

When installing two units hinge-by-hinge, 13/16" (22 mm) is required for integrated models. Additional space may be needed for any knobs, pulls or handles installed.



Stainless steel models which include the standard stainless handle will require 4-9/16" (116 mm) to allow both doors to open to 90° at the same time.



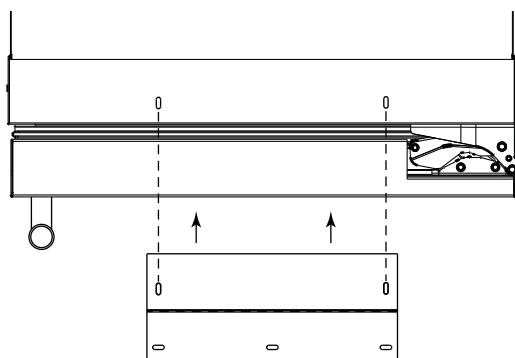
## Anti-Tip Bracket



**The anti-tip bracket must be installed to prevent the unit from tipping when doors are fully opened or excess weight is placed on the front of the unit.**

The anti-tip bracket has multiple mounting options. Mounting will depend on your particular cabinet configuration. Locate 3 #8x5/8" screws included with your unit.

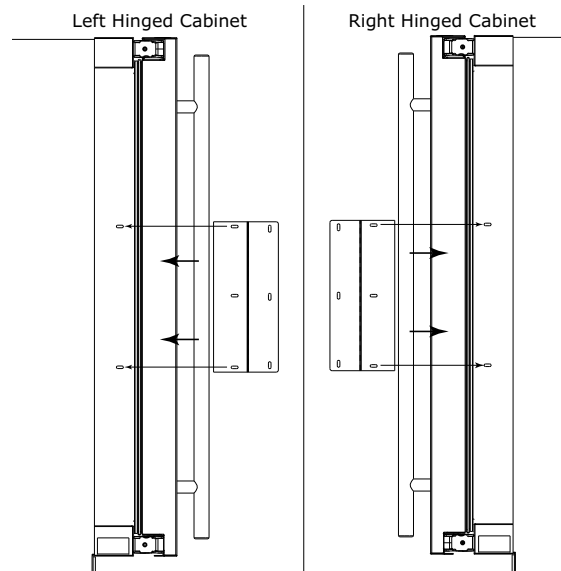
### TOP MOUNT



For ease of installation, the anti-tip bracket is pre-installed in the top mount position.

1. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).
2. Open door completely. Make certain door clears surrounding cabinetry.
3. Using a 3/32" (2.50 mm) drill bit, drill 3 pilot holes 5/8" (16 mm) deep into bottom of counter top. Use the anti-tip bracket as a template.
4. Install 3 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

### SIDE MOUNT

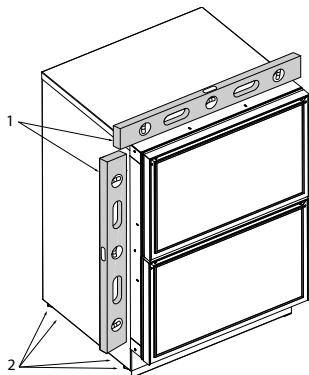


Side mount position is used when you are unable to mount the bracket to the underside of your countertop.

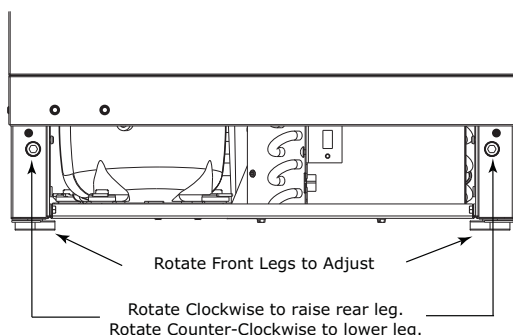
1. Remove the pre-installed anti-tip bracket from the top mount position and align the bracket to the hinge side of the unit as shown above.
2. Reinstall the 2 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.
3. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).
4. Open door completely. Make certain door clears surrounding cabinetry.
5. Using a 3/32" (2.50 mm) drill bit, drill 3 pilot holes 5/8" (16 mm) deep into cabinetry frame using the anti-tip bracket as a template.
6. Install 3 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

## General Installation

1. Use a level to confirm the unit is level. Level should be placed along top edge and side edge as shown.



2. If the unit is not level, remove grille and adjust legs as necessary. Use included tool to adjust the height of the rear legs.



3. Confirm the unit is level after each adjustment and repeat the previous steps until the unit is level.

### INSTALLATION TIP

If the room floor is higher than the floor in the cutout opening, adjust the rear legs to achieve a total unit rear height of 1/8" (3 mm) less than the opening's rear height. Shorten the unit height in the front by adjusting the front legs. This allows the unit to be gently tipped into the opening. Adjust the front legs to level the unit after it is correctly positioned in the opening.

## INSTALLATION

1. Plug in the power/electrical cord.
2. Gently push the unit into position. Be careful not to entangle the cord.
3. Re-check the leveling, from front to back and side to side. Make any necessary adjustments. The unit's top surface should be approximately 1/8" (3 mm) below the countertop.
4. Install the anti-tip bracket.
5. Remove the interior packing material and wipe out the inside of the unit with a clean, water-dampened cloth.

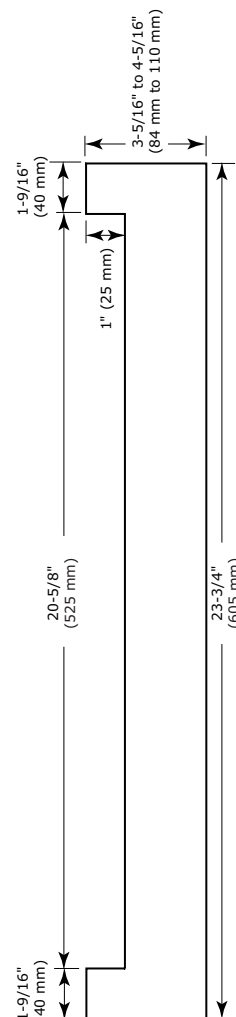
## Integrated Grille - Plinth Dimensions

### INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA) DIMENSIONS

#### PREPARE AND INSTALL INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA)

1. Use the dimensions provided in the diagram to cut and shape your integrated grille (plinth strip/base fascia) panel. Recommended panel thickness is between 1/4" (6 mm) and 3/8" (9 mm). Height will vary from 3-5/16" (84 mm) to 4-5/16" (110 mm) based on your grille (plinth strip/base fascia) height.
2. Finish or stain your grille (plinth strip/base fascia) panel to match your surrounding furniture. Finish front, back and edges to prevent warping. Carefully follow the manufacturer's recommendations for finish application and cure times.
3. Apply double sided tape to the backside of the integrated grill (plinth strip/base fascia). Use the diagram below for reference. U-Line recommends 3M™ VHB™ tape, a high strength bonding tape.

Apply Tape To Shaded Area



4. Remove backing paper from double sided tape.
5. Carefully align grille (plinth strip/base fascia) over integrated panel and press into position.

## Grille - Plinth Installation

### REMOVING AND INSTALLING GRILLE (PLINTH STRIP/BASE FASCIA)



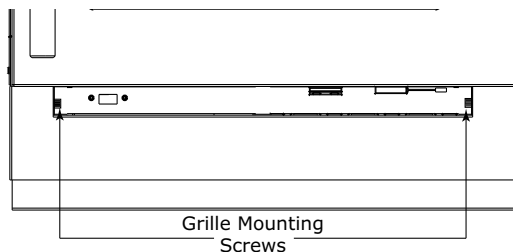
**Disconnect electrical current to the unit before removing the grille (plinth strip/base fascia).**

**When using the unit, the grille (plinth strip/base fascia) must be installed.**

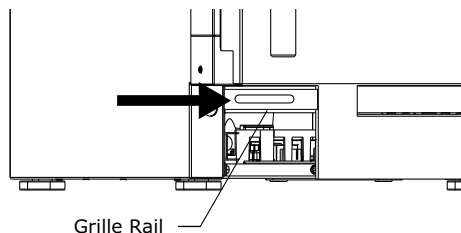
**Edges of sheet metal may be sharp.**

#### Removing the grille (plinth strip/base fascia)

1. Disconnect electrical current to unit.
2. Using the included 7/64" Allen wrench, loosen (but do not remove) both grille (plinth strip/base fascia) lock screws. See below.



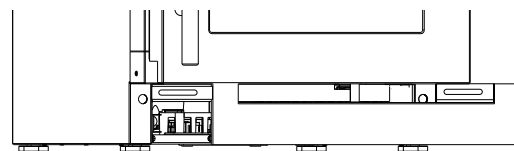
3. Gently pull grille (plinth strip/base fascia) away from unit until it stops.
4. Push grille (plinth strip/base fascia) rails towards the center of the unit to lift rails off lock screws.



5. Pull grille (plinth strip/base fascia) free from unit.

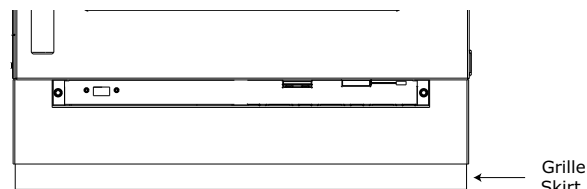
#### Installing the grille (plinth strip/base fascia)

1. Align slots in grille (plinth strip/base fascia) rail with screw heads in base of unit
2. Push grille (plinth strip/base fascia) rails towards the center of the unit and set rails over screw head.
3. Slide grille (plinth strip/base fascia) into position. Using included 7/64" Allen wrench tighten grille (plinth strip/base fascia) lock screws.



#### ADJUSTING GRILLE (PLINTH STRIP/BASE FASCIA)

The grille (plinth strip/base fascia) has an automatic vertical plane adjustment and can also be adjusted on its horizontal plane as well. To adjust your grille (plinth strip/base fascia) to match your surrounding furniture, follow the instructions below.



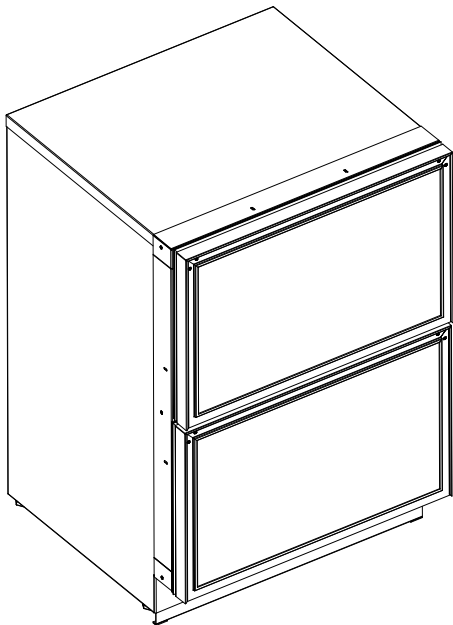
1. Loosen, but do not remove, the lock screws on the inside of the grille (plinth strip/base fascia) rails. Lock screws are located on the inside of each grille (plinth strip/base fascia) rail.
2. The grille (plinth strip/base fascia) can be extended horizontally by pulling out a maximum of 1-1/2" (38 mm). Do not exceed 1-1/2" (38 mm). Secure the lock screws after adjusting.
3. The grille (plinth strip/base fascia) skirt may be manually adjusted to the height of your floor. Simply raise or lower the skirt as needed.



## Drawers

### CHECKING DRAWER ALIGNMENT

The unit's drawers are aligned at the factory before shipment. However, their alignment could have been disturbed during shipment or during overlay panel installation. Check each drawer to confirm that it is aligned:



- **Side-to-Side** — When viewed from the top, the drawer front should be square with the sides of the cabinet.
- **Front-to-Back** — When viewed from the side, the drawer front should be straight with the cabinet's sides, not cocked forward or back.
- **Top-to-Bottom** — When viewed from the front, the drawer should be level horizontally.

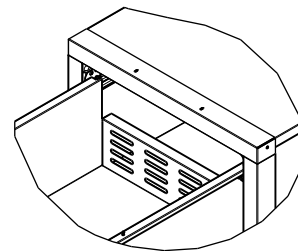
### ADJUSTING DRAWER ALIGNMENT



**SHOCK HAZARD** — The unit must be unplugged from the wall outlet during drawer removal, adjustment and re-installation.

### DRAWER REMOVAL

1. Confirm that the unit is unplugged from wall outlet
2. Remove the mounting screws.
3. Pull the drawer completely out of the unit.



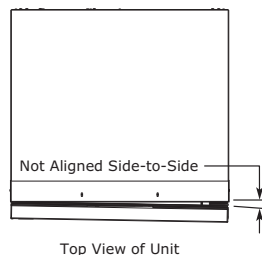
**Use care when handling the drawer. Drawer edges, drawer rail and the unit's slide may be sharp.**

### NOTICE

**Drawer adjustments are made by moving the slide that carries the drawer's rail. Minor adjustments may be made by loosening one of the slide's mounting screws, adjusting the slide and retightening the screw. Severe adjustments may be made by removing the slides' mounting screws, drilling new mounting holes and remounting the slide.**

## SIDE-TO-SIDE ADJUSTMENT

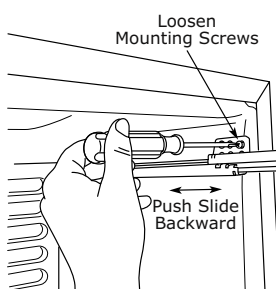
The drawer will need a Side-to-Side Adjustment if, when viewed from the top, the drawer front is not square with the sides of the cabinet. This is caused by one of the slides being mounted too far forward on the unit's liner.



### Minor Adjustment:

*Note:* The mounting holes on the slide are slightly larger than the screws' diameter.

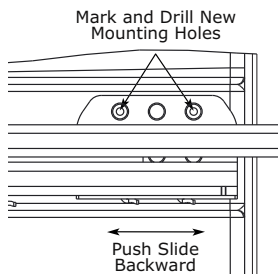
1. Loosen the slide's mounting screws.
2. Push the slide backward.
3. Retighten the screws.



### Severe Adjustment:

*Note:* The slides have extra mounting holes that may be used.

1. Remove the slide's mounting screws.
2. Reposition the slide so it is the same distance from the front of the liner as the other slide. Measure to confirm.



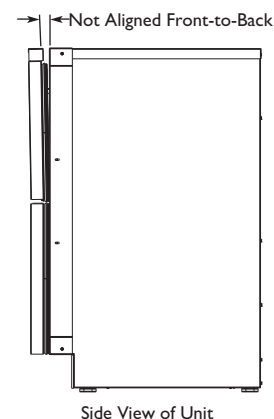
3. Mark new drilling holes using different sets of mounting holes on the slide.

*Note:* Front location holes are shown. Corresponding rear holes will also need to be marked.

4. Drill all the new holes with a #30 drill bit.
5. Remount the slide.

## FRONT-TO-BACK ADJUSTMENT

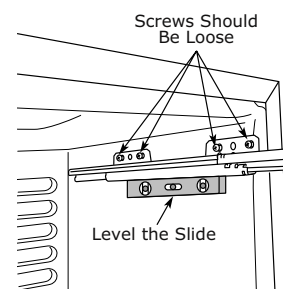
The drawer will need a Front-to-Back Adjustment if, when viewed from the side, the drawer front is cocked forward or back. This is caused by the front slide mountings not being level with the rear slide mountings.



### Minor Adjustment:

*Note:* The mounting holes on the slide are slightly larger than the screws' diameter.

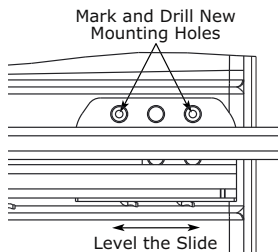
1. Loosen one slide's mounting screws.
2. Level the slide.
3. Retighten the screws.
4. Repeat procedure for the other slide.



## Severe Adjustment:

*Note:* The slides have extra mounting holes that may be used.

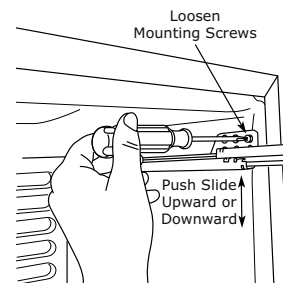
1. Loosen one slide's rear mounting screws.
2. Remove the slide's front mounting screws.
3. Reposition the slide so it is level.
4. Mark new front drilling holes using a different set of mounting holes on the slide.
5. Drill the new holes with a #30 drill bit.
6. Remount the slide.
7. Repeat procedure for the other slide.



## Minor Adjustment:

*Note:* The mounting holes on the slide are slightly larger than the screws' diameter.

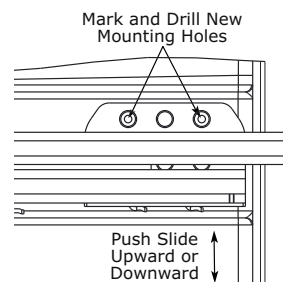
1. Loosen one slide's mounting screws.
2. Push the slide upward or downward to match the position of the other slide.
3. Retighten the screws.
4. Repeat the procedure with the other slide if necessary.



## Severe Adjustment:

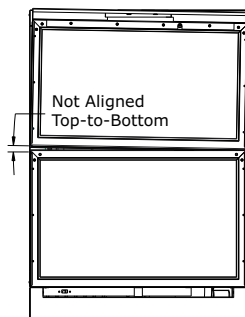
*Note:* The slides have extra mounting holes that may be used.

1. Remove one slide's mounting screws.
2. Reposition the slide so it is the same distance from the bottom of the liner as the other slide. Measure to confirm.

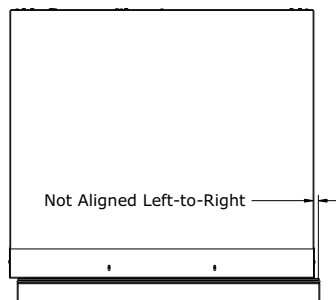


## TOP-TO-BOTTOM (AND LEFT-TO-RIGHT) ADJUSTMENT

The drawer will need a Top-to-Bottom Adjustment if, when viewed from the front, the drawer is not level horizontally. Viewed from the top, one side will protrude. This is caused by one of the slides being mounted higher than the other slide on the unit's liner.



Front View of Unit



Top View of Unit

3. Mark new drilling holes using different sets of mounting holes on the slide.
4. Drill all the new holes with a #30 drill bit.
5. Remount the slide.

*Note:* Front location holes are shown. Corresponding rear holes will also need to be marked.

## RE-INSTALLATION OF DRAWER



**Use care when handling the drawer. Drawer edges, drawer rail and the unit's slide may be sharp.**

1. Set the drawer's rails onto the slides.
2. Re-install the rails' mounting screws.


## First Use

All U-Line controls are preset at the factory. Initial startup requires no adjustments.

### NOTICE

**U-Line recommends allowing the unit to run overnight before loading with product.**

When plugged in, the unit will begin operating under the factory default setting. Follow the on screen prompt for language selection and temperature units.

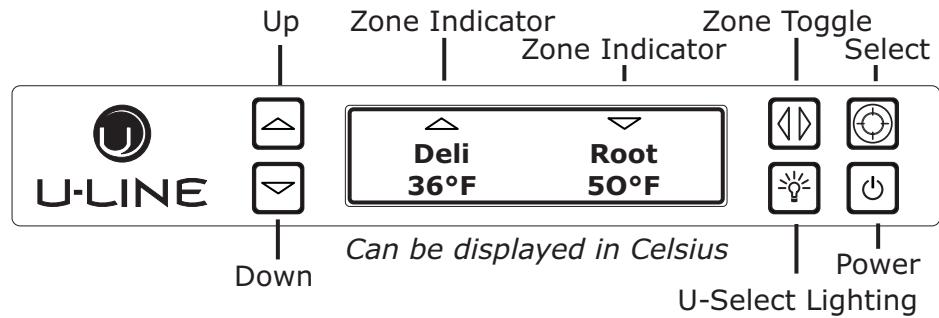
To turn the unit off, press  and hold for 5 seconds and release. The display will show a countdown to switching the unit off.

To power your unit on, simply press  and the unit will immediately switch on.























## Control Operation

Your unit is equipped with two zones. Each zone can be set to a different mode.



### CONTROL FUNCTION GUIDE

FUNCTION	COMMAND	DISPLAY/OPTIONS
OFF	Press  and hold	Display will count down from 5 to off.
ON	Press  and release	Unit will come on immediately.
Adjust mode	Press  to select zone. Press  and release to scroll through the modes.	Modes available in table below. Press  or  to confirm mode or wait 5 seconds.
Adjust temperature	Press  to select zone. Press  to select mode. Press  or  to set temperature.	Press  to confirm temperature or wait 5 seconds.
Adjust lighting	Press  to adjust lighting	Press  to select zone. Press  or  to set low, medium or high.
Light ON/OFF with door	Press  to have light ON/OFF with door	Press  and release to scroll through timer settings. Both zones will default to the same timer setting.
Customer menu	Press  and hold or 5 seconds	Press  or  to scroll through menu.

Mode	Set Point °F (°C)	Temperature Range °F (°C)
Beverage/Drinks	38 (3)	34 - 65 (1 - 18)
Market/Fresh	38 (3)	34 - 40 (1 - 4)
Root	50 (10)	45 - 55 (7 - 12)
Pantry	42 (5)	34 - 70 (1 - 21)
Deli	36 (2)	34 - 40 (1 - 4)

**U-SELECT® CONTROL**

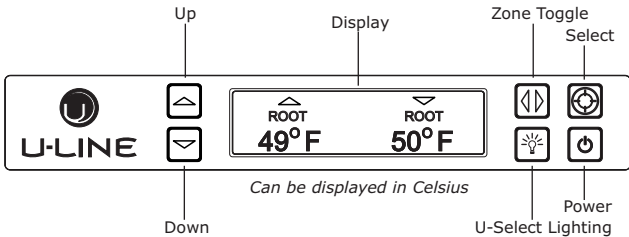
**Digital Display**

The 3000 Series units are controlled by a feature rich, advanced OLED display control unit. The control panel allows adjustment to temperature set point, access to Energy Saver Mode, internal temperature readings, and many other features.

**Zone Control**

Your model has a single control module for both zones. Each side of the control refers to a specific zone.

**Adjusting Temperature Settings**



Each zone has a series of Mode Settings with a default value for each setting. Each Mode Setting can be further customized by fine tuning the temperature set point. See the chart below for a description of each mode and mode temperature ranges. Mode selection will vary by model.

**Mode Settings Chart**






Setting	Default °F (°C)	Range °F (°C)
Beverage/Drinks	38 (3)	34 - 65 (1 - 18)
Market/Fresh	38 (3)	34 - 40 (1 - 4)
Root	50 (10)	45 - 55 (7 - 12)
Pantry	42 (5)	34 - 70 (1 - 21)
Deli	36 (2)	34 - 40 (1 - 4)

Many food types have an optimum storage temperature. Storing your food properly will help maintain its freshness and flavor. The Food Storage Chart contains food types and their respective optimum storage temperatures.

**Food Storage Chart**

Mode	Food Types
Deli	Meats, Fish, Cheeses, Dairy, Butter, Garlic, Oils, Nuts, Condiments
Market/Fresh	Fruits, Vegetables, Berries, Lettuce
Pantry	Dry Goods, Breads, Baking Items, Spices, Seasonings
Root	Root Vegetables, Potatoes, Onions, Lemon, Lime, Melon, Peppers, Beans, Cucumber, Cut Vegetables

Each zone may have its own mode and set point. Available Mode Settings will vary with model.

1. In order to adjust temperatures, you must first select a zone to adjust. To select, press . The left side Mode Setting will flash. Pressing  again will select the right side and the right side Mode Setting will flash.
2. Pressing  will cycle through the available modes for your model. Reference the Mode Settings Chart for each Setting's default set point and range.
3. Once you have selected your desired mode the default set temperature will display. You may further fine tune the temperature by pressing  or .

**Quick Chill**






**A number of zones include a quick chill feature. Quick chill is designed to quickly pull warm beverages and foods down to optimum storage temperature. It is important to only initiate quick chill modes when the unit has been fully loaded with warm product. Failure to follow this notice could result in food or beverages that are cooled to a point below optimum or frozen.**

The following table lists modes which include the quick chill feature and the time which quick chill will run.

Mode	Run Time
Beverage/Drinks	4 Hours
Market/Fresh	4 Hours
Root	1 Hour
Pantry	4 Hours
Deli	5 Hours

### To initiate quick chill:

1. Press  to select the desired zone, left or right.
2. Press  to select the desired mode setting.
3. Press  until the temperature set point reads "Quick".

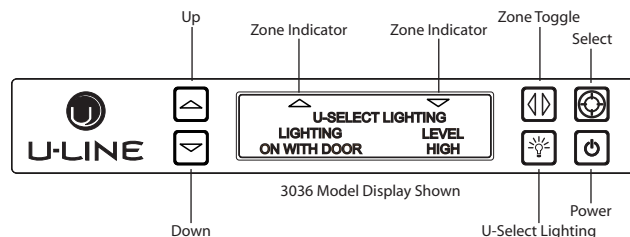
The quick chill feature will then begin for the period of time dictated by the mode type. To cancel quick chill, simply select a set point other than "quick".








NOTE: There may be a delay before quick chill is activated. If the opposite zone is currently in a cooling cycle while quick chill is selected, the cooling cycle on the opposite zone will first be completed.

NOTE: Please note, that when quick chill is activated, the zone opposite the active quick chill zone will not return to a cooling cycle until quick chill is complete. If storing product in the opposite zone it is important to limit the number of times the door is opened in the zone not currently under quick chill.

### INTERIOR LIGHTING

Your U-Line 3000 Series unit uses a state of the art LED lighting system.



1. To begin, press  to enter the lighting menu.
2. The unit initially defaults to control the lighting in both zones simultaneously. To select a single zone press . Notice the arrows on top of the display changing state. Pressing  once will select the left side zone, pressing it again will select the right side zone, pressing it a third time will select both zones.
3. Press  or  to cycle through each available brightness setting (Low, Medium or High).
4. Press  to cycle through each available timer setting. Selections include "On With Door", "On 3 Hours", "On 6 Hours", or "On 24 Hours".
5. To exit, press  or simply wait for the menu to time out.

## ERROR NOTIFICATION

The 3000 model series continuously monitors a series of inputs and parameters to ensure proper and efficient operation of your unit. Should the system detect a fault, an error notification will be displayed on the user interface. See below for a list of errors.

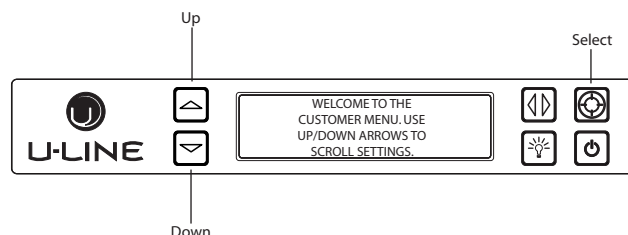
NOTE: Single zone models will not use (L) left or (R) right zone indicators in error notification.

ID	Description	Solution
No Comm	Unit lost communication to the display.	Disconnect and reconnect power to unit. Contact Customer Care if persistent.
(L) (R) Zone T Open	Left or right zone thermistor circuit open.	Contact Customer Care.
Amb Thrm Open	Ambient thermistor circuit open.	Contact Customer Care.
(L) (R) Zone T Short	Left or right zone thermistor circuit shorted.	Contact Customer Care.
Amb Thrm Short	Ambient thermistor circuit shorted.	Contact Customer Care.
(L) (R) Temp Hi 6H+	Left or right zone temperature +10° over set point for over 6 hours.	Verify door is closed and sealing. Contact Customer Care if persistent.
(L) (R) Temp Hi 12H+	Left or right zone temperature +10° over set point for over 12 hours.	Verify door is closed and sealing. Contact Customer Care if persistent.
(L) (R) Temp Lo 6H+	Left or right zone temperature -10° under set point for over 6 hours.	Verify door is closed and sealing. Contact Customer Care if persistent.
(L) (R) Temp Lo 12H+	Left or right zone temperature -10° under set point for over 12 hours.	Verify door is closed and sealing. Contact Customer Care if persistent.
(L) (R) Door Open 5M	Left or right door switch open for more than 5 minutes.	Verify door is closed and sealing. Contact Customer Care if persistent.



## CUSTOMER MENU

The 3000 Series of U-Line undercounter refrigeration appliances contain a feature rich customer menu. The Customer Menu allows access to a series of advanced features including Energy Saver Mode, Sabbath Mode, actual temperature readings as well a method to restore factory defaults.



## 3000 SERIES - CUSTOMER MENU



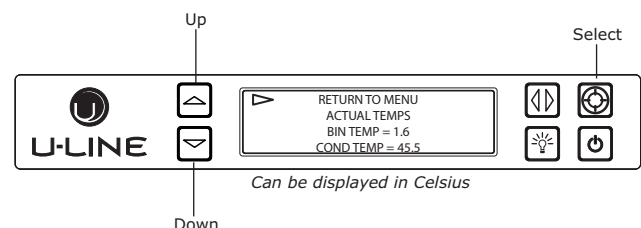
6. To access the Customer Menu hold  for 5 seconds.

7. Press  or  to scroll through available selections.


8. Press  to enter selected sub-menu.

9. To exit Customer Menu, press  to scroll to the bottom of the display and press  to select "Exit".


## Actual Temps



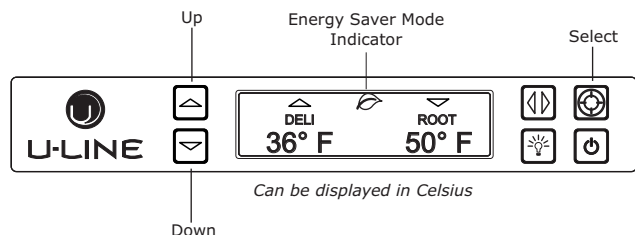
The Actual Temps option displays the actual temperature of each zone, evaporator, as well as ambient temperature.

1. To view actual temperature, press  and select "Actual Temps" from the Customer Menu.







2. Press  or  to scroll through available information.

3. To return to the Customer Menu, press  and select "Return to Menu".

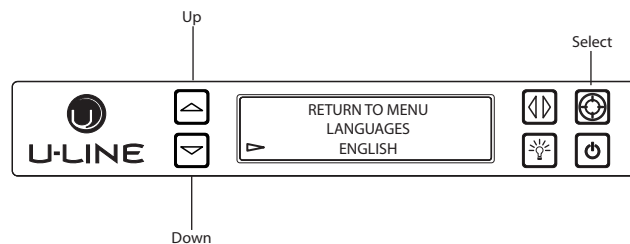
## Energy Saver Mode








Energy Saver mode reduces overall energy consumption by altering user set point, differential, lighting and tone settings. When in Energy Saver mode a small leaf icon will be displayed on the main screen.

1. To enter Energy Saver Mode, first select Energy Saver from the Customer Menu.
2. Press  to select "Off" in the menu.
3. Press .
4. Press  or  to change the selection from Off to On.
5. Press  to confirm your selection.
6. To return to the Customer Menu, press  and select "Return to Menu".
7. To cancel Energy Saver Mode simply return to the Customer Menu, select Energy Saver and change "On" to "Off".

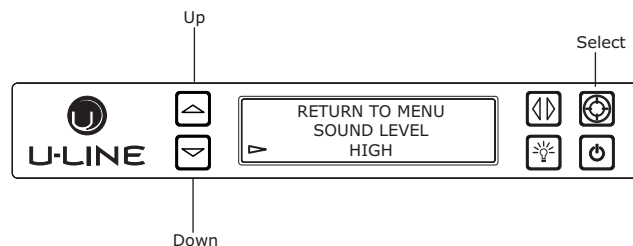
## Languages



The U-Line 3000 Series of models supports a number of display languages including English, Spanish, French, German, Dutch, and Italian.

1. To change display language select Languages from the Customer Menu.
2. Press  to select "English".
3. Press . "English" will begin to flash.
4. Press  or  to cycle through the available languages.
5. Press  to confirm your choice.

## Sound Level







Audible alarms and alert tones support four different Sound Level settings, High, Medium, Low, and Off.

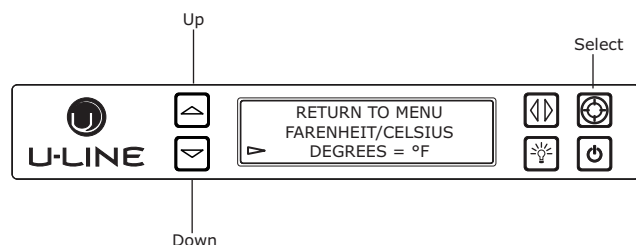
To select a new sound level, enter the Sound Level Menu from the Customer Menu.

1. Press  to select the current sound level.








2. Press . The current setting will begin to flash.
3. Press  or  to select a different level.
4. Press  to confirm your choice.

## Fahrenheit/Celsius

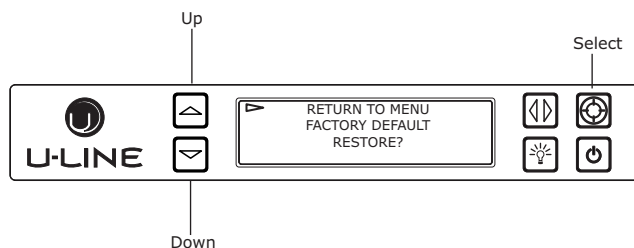


Temperature and set point information can be displayed in either Fahrenheit or Celsius.

To change from Fahrenheit to Celsius enter the Fahrenheit / Celsius menu from within the Customer Menu.



1. Press  to select "Degrees".
2. Press . The selection will begin to flash.
3. Press  or  to select between °F (Fahrenheit) or °C (Celsius).
4. Press  to confirm your choice.

## Factory Default







Factory Default will restore all settings to their factory default.

## To access Factory Default:

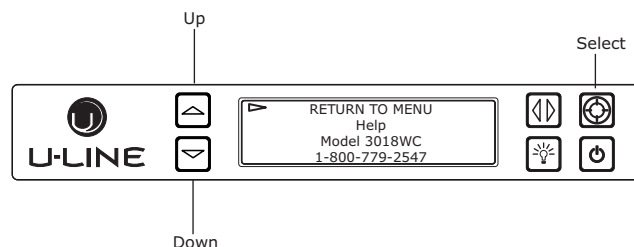
1. Press  to select "Factory Default".
2. Press .



## To restore settings to their factory default:

3. Press  to select "Restore?" and press .
4. "Restore?" will change to "Restoring..." while settings are restored. When restoration is complete, "Restoring..." will return to "Restore?".



To exit Factory Default, press  to select "Return to Menu" and press  to confirm.

## Help

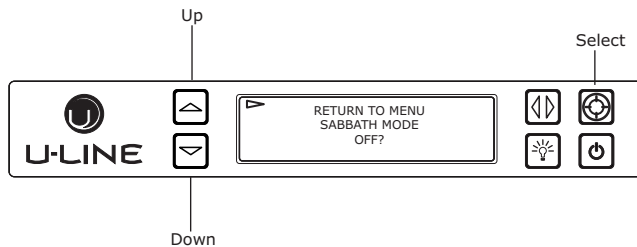


To access the Help Menu, select "Help" from the Customer Menu. Press  or  to scroll through available information. The Help screen displays the following:

- Model.
- U-Line contact information.
- Software version.
- Serial Number.







To exit the Help Menu, press  to select "Return to Menu" and press .

## Sabbath Mode



This unit offers a Sabbath mode for users who require this functionality during Sabbaths. Sabbath mode disables system responses to user initiated activities and all external functions, including lighting, display and audible alarms. The unit will still maintain internal temperatures and set points.


To enable Sabbath Mode:

1. Open the unit's door to activate the display.
2. To access the Customer Menu, hold  for 5 seconds.
3. Press  or  to scroll through available selections.
4. Select Sabbath Mode from the Customer Menu by pressing .
5. Press  to select "Off".
6. Press . "Off" will begin to flash.

7. Press  or  to change "Off" to "On".

8. Press  to confirm your selection.

The Display will fade out as the unit enters Sabbath Mode.  
Sabbath

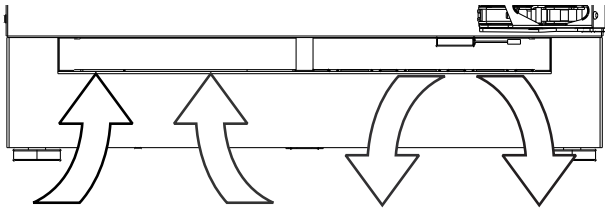
Mode remains active until  is quickly pressed and released.

## Airflow and Product Loading

### NOTICE

**The unit requires proper airflow to perform at its highest efficiency. Do not block the front grille, or the unit will not perform as expected. Do not install the unit behind a door. When loading your unit, leave space between the evaporator and product loaded. Anything in direct contact with the evaporator is subject to freezing.**

When properly loaded, your U-Line unit will store up to 142 (12 oz. [330 ml]) cans or 90 (12 oz. [330 ml]) bottles.



## Cleaning

### EXTERIOR CLEANING

#### Stainless Models

Stainless door panels and handles can discolor when exposed to chlorine gas, pool chemicals, saltwater or cleaners with bleach.

Keep your stainless unit looking new by cleaning with a good quality all-in-one stainless steel cleaner and polish monthly. For best results use Claire® Stainless Steel Polish and Cleaner. Comparable products are acceptable. Frequent cleaning will remove surface contamination that could lead to rust. Some installations may require cleaning weekly.

**Do not clean with steel wool pads.**

**Do not use stainless steel cleaners or polishes on any glass surfaces.**

Clean any glass surfaces with a non-chlorine glass cleaner.

**Do not use cleaners not specifically intended for stainless steel on stainless steel surfaces (this includes glass, tile and counter cleaners).**

If any surface discoloring or rusting appears, clean it quickly with Bon-Ami® or Barkeepers Friend Cleanser® and a nonabrasive cloth. Always clean with the grain. Always finish with Claire® Stainless Steel Polish and Cleaner or comparable product to prevent further problems.

**Using abrasive pads such as Scotchbrite™ will cause the graining in the stainless steel to become blurred.**

**Rust not cleaned up promptly can penetrate the surface of the stainless steel and complete removal of the rust may not be possible.**

### Integrated Models

To clean integrated panels, use household cleaner per the cabinet manufacturer's recommendation.

### INTERIOR CLEANING

Disconnect power to the unit.

Clean the interior and all removed components using a mild nonabrasive detergent and warm water solution applied with a soft sponge or non-abrasive cloth.

Rinse the interior using a soft sponge and clean water.

**Do not use any solvent-based or abrasive cleaners.** These types of cleaners may transfer taste to the interior products and damage or discolor the lining.

### DEFROSTING

Under normal conditions this unit does not require manual defrosting. Minor frost on the rear wall or visible through the evaporator plate vents is normal and will melt during each off cycle.

If there is excessive build-up of 1/4" (6 mm) or more, manually defrost the unit.

Ensure the door is closing and sealing properly.

High ambient temperature and excessive humidity can also produce frost.



**DO NOT use an ice pick or other sharp instrument to help speed up defrosting. These instruments can puncture the inner lining or damage the cooling unit. DO NOT use any type of heater to defrost. Using a heater to speed up defrosting can cause personal injury and damage to the inner lining.**

## NOTICE

**The drain pan was not designed to capture the water created when manually defrosting. To prevent water from overflowing the drain pan and possibly damaging water sensitive flooring, the unit must be removed from cabinetry.**

### To defrost:

1. Disconnect power to the unit.
2. Remove all products from the interior.
3. Prop the door in an open position (2 in. [50 mm] minimum).
4. Allow the frost to melt naturally.
5. After the frost melts completely clean the interior and all removed components. (See INTERIOR CLEANING).
6. When the interior is dry, reconnect power and turn unit on.

## Cleaning Condenser

### INTERVAL - EVERY SIX MONTHS

To maintain operational efficiency, keep the front grille (plinth strip/base fascia) free of dust and lint, and clean the condenser when necessary. Depending on environmental conditions, more or less frequent cleaning may be necessary.

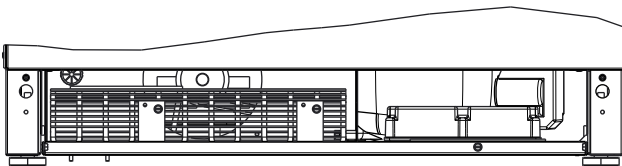


**Disconnect electric current to the unit before cleaning the condenser.**

### NOTICE

**DO NOT use any type of cleaner on the condenser unit. Condenser may be cleaned using a vacuum, soft brush or compressed air.**

1. Remove the grille (plinth strip/base fascia). (See GRILLE-PLINTH INSTALLATION).
2. Clean the condenser coil using a soft brush or vacuum cleaner.
3. Install the grille (plinth strip/base fascia).



## Extended Non-Use

### **VACATION/HOLIDAY, PROLONGED SHUTDOWN**

The following steps are recommended for periods of extended non-use:

1. Remove all consumable content from the unit.
2. Disconnect the power cord from its outlet/socket and leave it disconnected until the unit is returned to service.
3. If ice is on the evaporator, allow ice to thaw naturally.
4. Clean and dry the interior of the unit. Ensure all water has been removed from the unit.
5. The door must remain open to prevent formation of mold and mildew. Open door a minimum of 2" (50 mm) to provide the necessary ventilation.

### **WINTERIZATION**

If the unit will be exposed to temperatures of 40°F (5°C) or less, the steps above must be followed.

**For questions regarding winterization, please call U-Line at +1.800.779.2547.**



**Damage caused by freezing temperatures is not covered by the warranty.**

## Troubleshooting

### BEFORE CALLING FOR SERVICE

If you think your U-Line product is malfunctioning, read the CONTROL OPERATION section to clearly understand the function of the control.

If the problem persists, read the NORMAL OPERATING SOUNDS and TROUBLESHOOTING GUIDE sections below to help you quickly identify common problems and possible causes and remedies. Most often, this will resolve the problem without the need to call for service.

### IF SERVICE IS REQUIRED

If you do not understand a troubleshooting remedy, or your product needs service, contact U-Line Corporation directly at +1.414.354.0300

When you call, you will need your product Model and Serial Numbers. This information appears on the Model and Serial number plate located on the upper right or rear wall of the interior of your product.

### NORMAL OPERATING SOUNDS

All models incorporate rigid foam insulated cabinets to provide high thermal efficiency and maximum sound reduction for its internal working components. Despite this technology, your model may make sounds that are unfamiliar.

Normal operating sounds may be more noticeable because of the unit's environment. Hard surfaces such as cabinets, wood, vinyl or tiled floors and paneled walls have a tendency to reflect normal appliance operating noises.

Listed below are common refrigeration components with a brief description of the normal operating sounds they make. NOTE: Your product may not contain all the components listed.

- Compressor: The compressor makes a hum or pulsing sound that may be heard when it operates.

- Evaporator: Refrigerant flowing through an evaporator may sound like boiling liquid.
- Condenser Fan: Air moving through a condenser may be heard.
- Automatic Defrost Drain Pan: Water may be heard dripping or running into the drain pan when the unit is in the defrost cycle.

### TROUBLESHOOTING GUIDE

#### DANGER

**ELECTROCUTION HAZARD. Never attempt to repair or perform maintenance on the unit before disconnecting the main electrical power.**

Troubleshooting - What to check when problems occur:

Problem	Possible Cause and Remedy
Light Remains on When Door Is Closed.	Turn off light switch if equipped. Check reed switch.
Unit Develops Frost on Internal Surfaces.	Frost on the rear wall is normal and will melt during each off cycle. If there is excessive build-up of 1/4" or more, manually defrost the unit. Ensure the door is closing and sealing properly. High ambient temperature and excessive humidity can also produce frost.
Unit Develops Condensation on External Surfaces.	The unit is exposed to excessive humidity. Moisture will dissipate as humidity levels decrease.
Product Is Freezing.	Because product in contact with the rear wall may freeze, ensure no product is touching the rear wall. Adjust the temperature to a warmer set point.

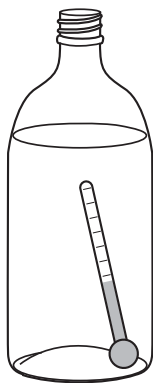


Problem	Possible Cause and Remedy
Product is Not Cold Enough.	<p>Air temperature does not indicate product temperature. See CHECKING PRODUCT TEMPERATURE below.</p> <p>Adjust the temperature to a cooler set point.</p> <p>Ensure unit is not located in excessive ambient temperatures or in direct sunlight.</p> <p>Ensure the door is closing and sealing properly.</p> <p>Ensure the interior light has not remained on too long.</p> <p>Ensure nothing is blocking the front grille, found at the bottom of the unit.</p> <p>Ensure the condenser coil is clean and free of any dirt or lint build-up.</p>

### Causes which affect the internal temperatures of the cabinet include:

- Temperature setting.
- Ambient temperature where installed.
- Installation in direct sunlight or near a heat source.
- The number of door/drawer openings and the time the door/drawer is open.
- The time the internal light is illuminated. (This mainly affects product on the top rack or shelf.)
- Obstruction of front grille or condenser.

## CHECKING PRODUCT TEMPERATURE



### To check the actual product temperature in the unit:

1. Partially fill a plastic (nonbreakable) bottle with water.
2. Insert an accurate thermometer.
3. Tighten the bottle cap securely.
4. Place the bottle in the desired area for 24 hours.
5. Avoid opening the unit during the testing period.
6. After 24 hours, check the temperature of the water. If required, adjust the temperature control in a small increment (see CONTROL OPERATION).

## U-Line Corporation (U-Line) Limited Warranty

### One Year Limited Warranty

For one year from the date of original purchase, this U-Line product warranty covers all parts and labor to repair or replace any part of the product that proves to be defective in materials or workmanship. For products installed and used for normal residential use, material cosmetic defects are included in this warranty, with coverage limited to 60 days from the date of original purchase. All service provided by U-Line under the above warranty must be performed by U-Line factory authorized service, unless otherwise specified by U-Line. Service provided during normal business hours.

### Available Second Year Limited Warranty

Beyond the standard one year warranty outlined above, U-Line offers an extension of the one year warranty coverage for an additional second year from the date of purchase, free of charge. To take advantage of this second year warranty, you must register your product with U-Line within two months from the date of purchase at [u-line.com](http://u-line.com) providing proof of purchase.

### Five Year Sealed System Limited Warranty

For five years from the date of original purchase, U-Line will repair or replace the following parts, labor not included, that prove to be defective in materials or workmanship: compressor, condenser, evaporator, drier, and all connecting tubing. All service provided by U-Line under the above warranty must be performed by U-Line factory authorized service, unless otherwise specified by U-Line. Service provided during normal business hours.

### Terms

These warranties apply only to products installed in any one of the fifty states of the United States, the District of Columbia, or the ten provinces of Canada. The warranties do not cover any parts or labor to correct any defect caused by negligence, accident or improper use, maintenance, installation, service, repair, acts of God, fire, flood or other natural disasters. The product must be installed, operated, and maintained in accordance with the U-Line User Guide.

The remedies described above for each warranty are the only ones that U-Line will provide, either under these warranties or under any warranty arising by operation of law. U-Line will not be responsible for any consequential or incidental damages arising from the breach of these warranties or any other warranty, whether express, implied, or statutory. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. These warranties give you specific legal rights, and you may also have other rights which vary from state to state.

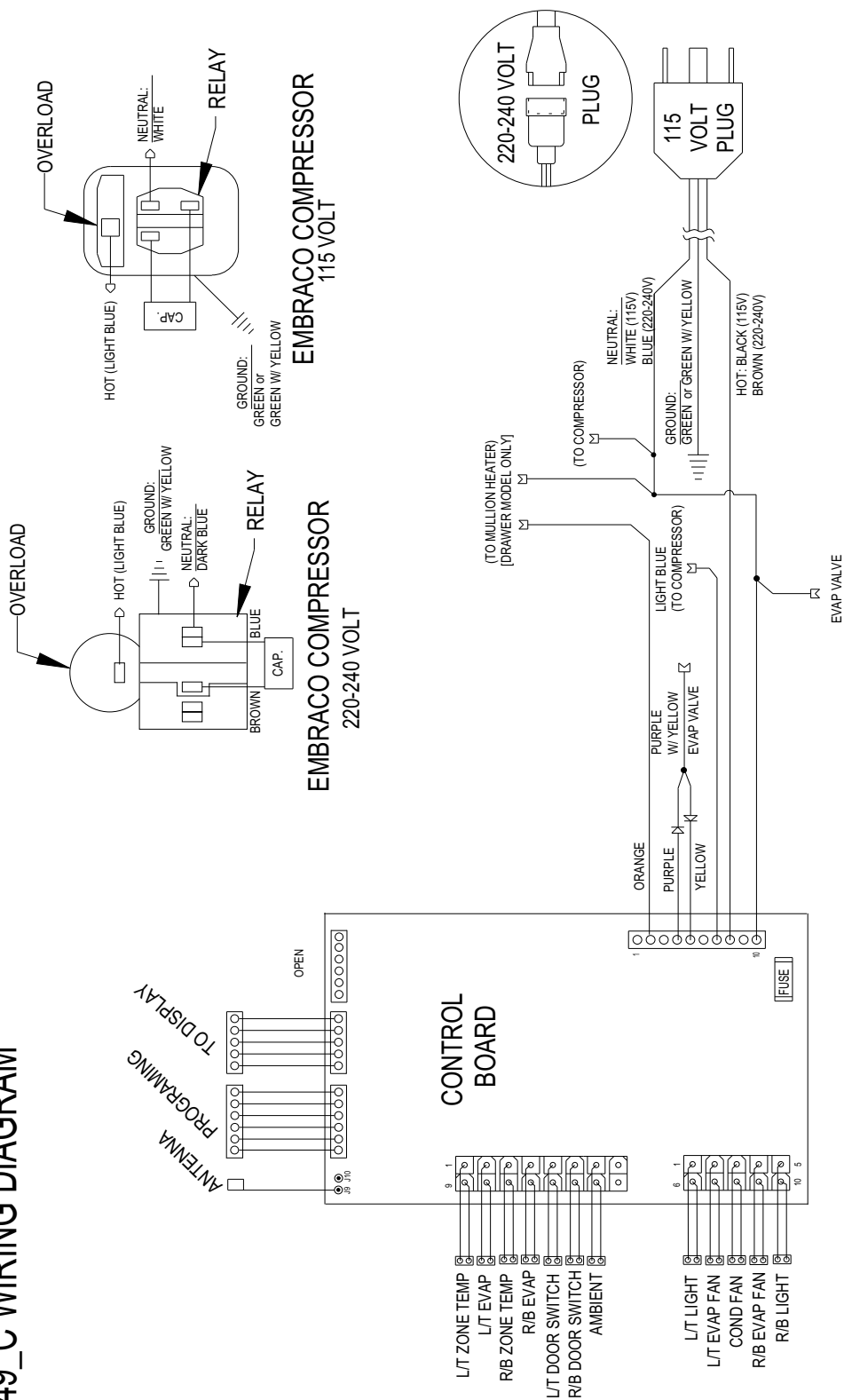
Any warranty that may be implied in connection with your purchase or use of the product, including any warranty of *merchantability* or any warranty *fit for a particular purpose* is limited to the duration of these warranties, and only extends to five years in duration for the parts described in the section related to the five year limited warranty above. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

- The warranties only apply to the original purchaser and are non-transferable.
- The second year and five year warranties cover products installed and used for normal residential or designated marine use only.
- The warranties apply to units operated outside only if designed for outdoor use by model and serial number.
- Replacement water filters, light bulbs, and other consumable parts are not covered by these warranties.
- The start of U-Line's obligation is limited to four years after the shipment date from U-Line.
- In-home instruction on how to use your product is not covered by these warranties.
- Food, beverage, and medicine loss are not covered by these warranties.
- If the product is located in an area where U-Line factory authorized service is not available, you may be responsible for a trip charge or you may be required to bring the product to a U-Line factory authorized service location at your own cost and expense.
- Units purchased after use as floor displays, and/or certified reconditioned units, are covered by the limited one year warranty only and no coverage is provided for cosmetic defects.
- Signal issues related to Wi-Fi connectivity are not covered by these warranties.

For parts and service assistance, or to find U-Line factory authorized service near you, contact U-Line:  
 8900 N. 55th Street, Milwaukee, WI 53223 • [u-line.com](http://u-line.com) • [onlineservice@u-line.com](mailto:onlineservice@u-line.com) • +1.800.779.2547

## Wire Diagram

### 42349\_C WIRING DIAGRAM



## Product Liability

Field service technicians are authorized to make an initial assessment in the event of reported damages. If there are any questions about the process involved, the technician should call U-Line for further explanation.

While inspecting for defects or installation issues, photos should be taken to document any damages or issues found.

During the assessment, if the service technician is able to find the source of the damage and it can be resolved by replacement of a part, the servicer is authorized to replace the part in question. The part that caused the damage must be returned to U-Line in its entirety. The part must be clearly labeled with the serial number of the unit it was removed from, the date, and the servicer who removed the part.

If the service technician determines the damage is the result of installation issues (water connection/drain, etc.), the consumer would be notified and the issues shall be resolved at the direction of the consumer.

If damage is evident and the service technician is unable to find the source, U-Line must be contacted at 1-800-799-2547 for further direction

8900 N. 55th Street • Milwaukee, WI 53223  
T: +1.414.354.0300 • F: +1.414.354.354.5696  
Website: [www.u-line.com](http://www.u-line.com)

**Right product. Right place.  
Right temperature Since 1962.**

## Warranty Claims

The following information defines the parameters for filing a warranty claim:

- Valid serial number needed
- Valid model number needed
- Narda (or equivalent) form or submitted online at [www.u-line.com](http://www.u-line.com)
- 60 day submittal deadline from date of completed service
- Only one repair or unit per warranty claim
- Refrigerant should be labeled and included on the labor submittal
- Door and water level adjustments are covered 30 days from install date.

Serial Number Requirements:

**14 30911 12 XXXX**

Year                      Month

A typical serial number is shown above. The first two digits of the first segment, 14, represents the production year. The number between the dashes, 12, represents the production month. In most cases, warranty status can be verified by the production date information within the serial number.

- Alternatively, a Proof of Purchase (or equivalent) may submitted with the warranty claim to document

warranty status. We also accept the following information to verify warranty status:

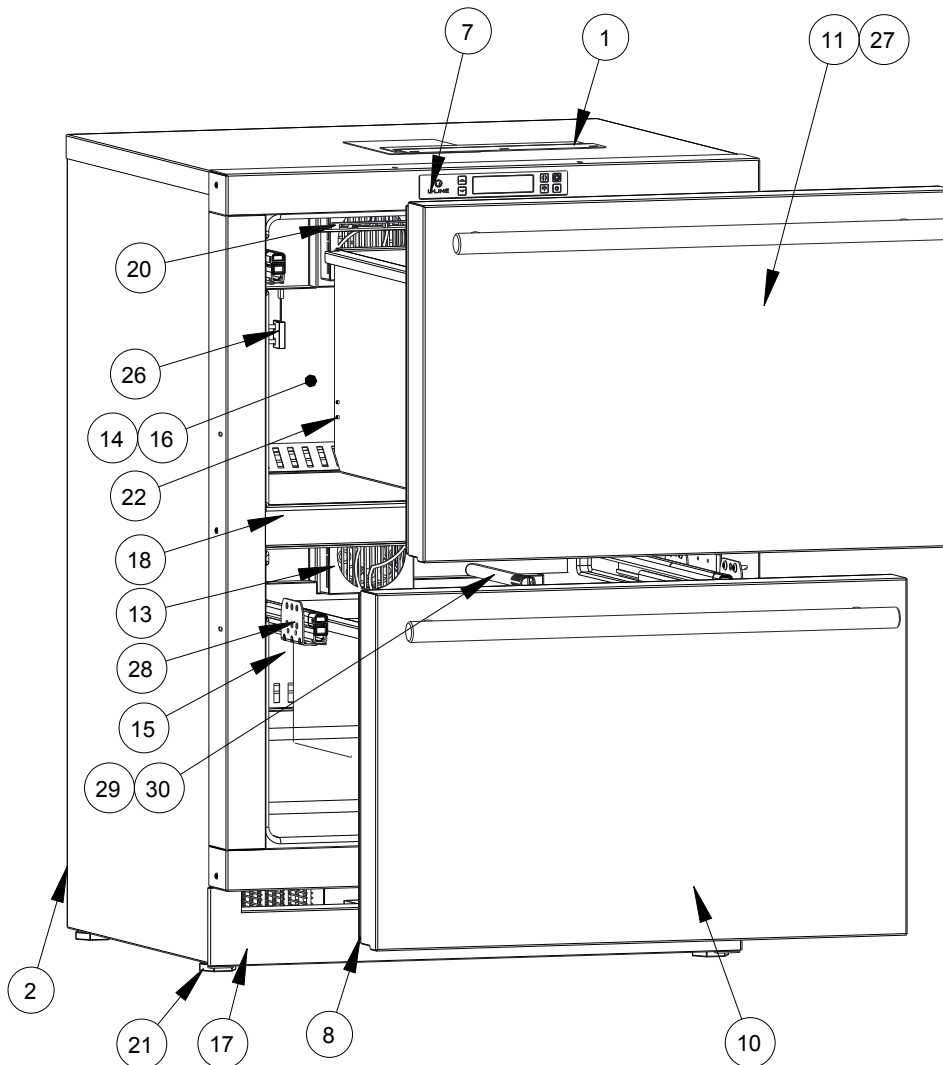
- New Construction Occupancy Documents
- Closing Paperwork
- Final Billing – Remodel

Noting all of the following on the warranty claim will be considered proof of purchase, hard copy will not be required:

- Name of the selling Dealer
- Date of purchase/installation
- Order or Invoice number (if available)
- Description of document reviewed (i.e. store receipt, closing paperwork, etc)

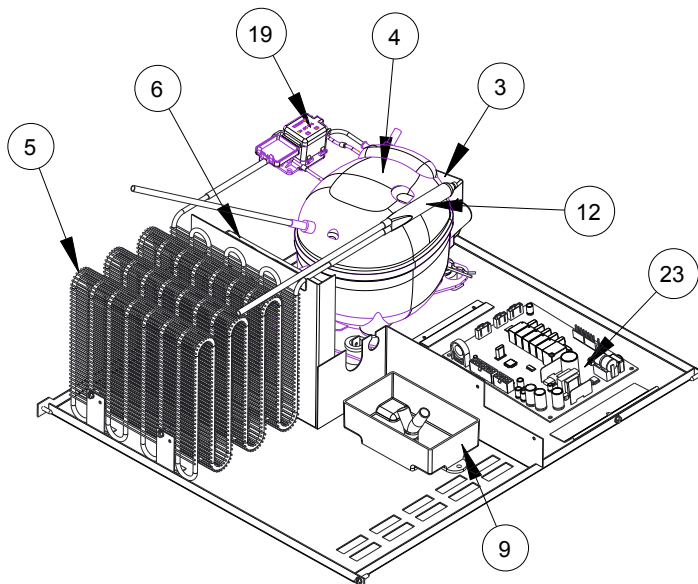
Parts and labor claims are paid separately. Indicate part numbers and description for parts used in the warranty repair. Include the purchase invoice and name of the parts supplier used to procure the parts.

## Parts



### U-3024DWRS-00B

Item	Description	U-Line P/N
1	Anti tip bracket w/screws	80-54012-00
2	Back panel	80-54086-00
3	Compressor electricals only	80-54149-00
4	Compressor w/electricals	80-54150-00
5	Condenser	80-54090-00
6	Condenser fan w/screws	80-54014-00
7	Display module	80-54032-00
8	Drawer gasket	80-54183-00
9	Drain pan w/double sided tape	80-54002-00
10	Drawer assy, lower	80-54181-00
11	Drawer assy, upper	80-54182-00
12	Drier	80-54076-00
13	Evap fan w/cover and screws	80-54005-00
14	Evaporator	80-54095-00
15	Evaporator cover, bottom	80-54122-00
16	Evaporator cover, top	80-54121-00
17	Grille w/screws	80-54052-00
18	Heater assy, Mullion	80-54120-00
19	By-pass valve	80-54180-00
20	LED light strip and cover assy	80-54000-00
21	Leg Levelers (4)	80-54019-00
22	Magnet	80-54100-00
23	Main board(no wires or case)	80-54008-00
24	Packaging	80-54160-00
25	Power cord	80-54178-00
26	Reed switch	80-54134-00
27	Slide and divide	80-54115-00
28	Slide assy	80-54119-00
29	Thermistor (1 piece)	80-54006-00
30	Thermistor cover and pin	80-54023-00
31	Wire Harness, dual	80-54179-00



## Ordering Replacement Parts

If you have a purchasing account, please utilize our service website to order parts.

Orders may also be placed by Fax or phone. See our contact information below:

[www.U-LineService.com](http://www.U-LineService.com) (with service login)

FAX Number: +1.414.354.5696

Phone Number: +1.800.779.2547

### NOTICE

**Use only genuine U-Line replacement parts. The use of non-U-Line parts can reduce speed of ice production, cause water to overflow from ice maker mold, damage the unit, and void the warranty.**

Warranty parts will be shipped at no charge after U-Line confirms warranty status. Please provide the model, serial number, part number and part description. Some parts will require color or voltage information.

If U-Line requires the return of original parts, we will inform you when the parts order is taken. This requirement will be noted on your packing list. A prepaid shipping label will be included with the replacement part. Please enclose a copy of the parts packing list and any labor claims with your return. Please be sure the model and serial numbers are legible on the paperwork. Tag the part with the reported defect.

When ordering a non-warranty part, you will need an open account and tax exemption on file at U-Line. Another option would be to visit [www.u-line.com](http://www.u-line.com) to locate an authorized parts distributor in your area.

## System Diagnosis Guide

### REFRIGERATION SYSTEM DIAGNOSIS GUIDE

System Condition	Suction Pressure	Suction Line	Compressor Discharge	Condenser	Capillary Tube	Evaporator	Wattage
<b>Normal</b>	Normal	Slightly below room temperature	Very hot	Very hot	Warm	Cold	Normal
<b>Overcharge</b>	Higher than normal	Very cold may frost heavily	Slightly warm to hot	Hot to warm	Cool	Cold	Higher than normal
<b>Undercharge</b>	Lower than normal	Warm-near room temperature	Hot	Warm	Warm	Extremely cold near inlet - Outlet below room temperature	Lower than normal
<b>Partial Restriction</b>	Somewhat lower than normal vacuum	Warm - near room temperature	Very hot	Top passes warm - Lower passes cool (near room temperature) due to liquid	Room temperature (cool) or colder	Extremely cold near inlet - Outlet below room temperature backing up	Lower than normal
<b>Complete Restriction</b>	In deep vacuum	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal
<b>No Gas</b>	0 PSIG to 25"	Room temperature (cool)	Cool to hot	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal



Compressor Specifications

 **DANGER**

**Electrocution can cause death or serious injury. Burns from hot or cold surfaces can cause serious injury. Take precautions when servicing this unit.**

**Disconnect the power source.**

**Do not stand in standing water when working around electrical appliances.**

**Make sure the surfaces you touch are not hot or frozen.**

**Do not touch a bare circuit board unless you are wearing an anti-static wrist strap that is grounded to an electrical ground or grounded water pipe.**

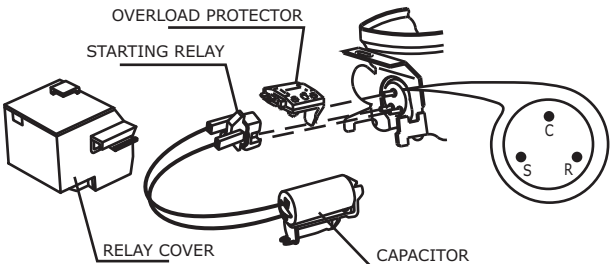
**Handle circuit boards carefully and avoid touching components.**

To measure the start winding resistance, measure across the C and S pins.

To measure the run winding resistance, measure across the C and R pins.

Also check S to R and you should get the sum of the run and start windings.

To ensure the windings are not shorted, check the S and R to ground.



ULIN\_0368\_A

	EMX20CLC
Refrigerant	R600a
Voltage	115 - 127 VAC
Frequency	60 Hz
Run Cap	12µF/165 VAC
Start Winding	6.7 Ohm at 77°F
Run Winding	12.6 Ohm at 77°F
LRA	3.7 A
FLA	0.5 A
Starting Device	8EA14C
Overload	4TM142RFBYY-53

\* All resistance readings are ±10%

## Troubleshooting - Extended

### **SPECIFIC ERRORS AND ISSUES**

The technically advanced diagnostic capabilities of the electronic controls utilized on the 3000 series units allows for easy and thorough trouble shooting.

Navigation of the control is the key and is explained in the CONTROL OPERATION section of the manual, along with control button layout, control function descriptions, a service mode menu and service menu selection explanations.

Verification of temperature and thermistor performance can be identified by directly viewing actual temperature readings in the service mode.

Component failure issues can be identified through service mode menu selection, "Relay Toggle" Individual components can be switched on and off to check for both proper function of a specific component and also delivery of supply voltage to the components through the relays and DC outputs located on the relay/power board.

Included in this section is some diagnostic tips and as always, if additional help is required please contact the U-Line Corp, "Customer Care Facility" at +1.800.779.2547 for assistance.



**Never attempt to repair or perform maintenance on the unit until the main electrical power has been disconnected from the unit.**

## TROUBLESHOOTING GUIDE

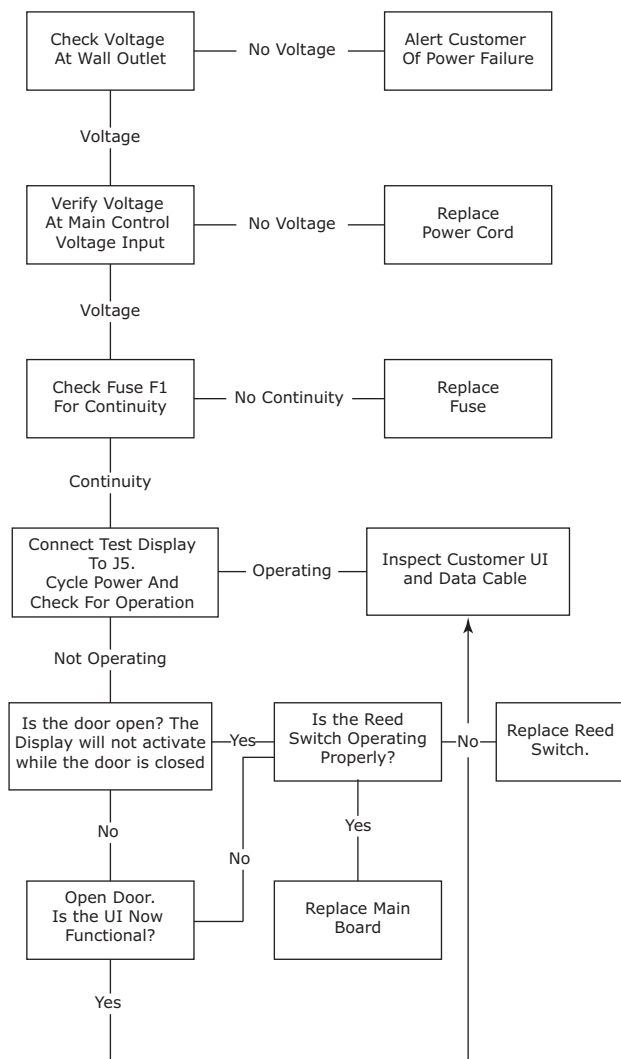
Concern	Potential Causes	Suggested Remedy
Not Cooling	Compressor overheating	Verify proper air flow through condenser (Refer to Airflow/General Information Section).
		Confirm condenser fan operation (Refer to Airflow/General Information Section).
		Confirm proper compressor operating voltage (Refer to Toggle/Compressor Information Section).
	Compressor not operating	Confirm proper compressor operating voltage (Refer to Toggle/Compressor Information Section to initiate power to the compressor).
		Test overload and relay, replace as needed.
	Compressor operating - no cooling	Refer to System Diagnosis Guide.
	Evaporator fan not operating	Refer to Convection Cooling Section.
Frozen Product	Ensure proper use of Quick Chill mode	Refer to Control Operation Section.
	Control set too cold	Refer to Adjusting Temperature Settings Section
	Review logged error codes	Refer to Fault System Diagnosis Guide.
	Thermistor failure	Refer to Thermistor Failure Section
Frost Buildup Inside Unit	Door Ajar or Restricted from Closing	Check door clearance to adjoining cabinetry. Check distribution of product in unit.
	Evaporator fan not operating	Use #19, Component Testing in Service Mode.
	Thermistor failure	Refer to Thermistor Failure Section.
Display Not Working	Unit placed in Sabbath mode?	Refer to Sabbath Mode Section.
	Display unplugged	Verify that both ends of the display wiring are firmly connected.
	Display wiring broken or damaged	Perform continuity test of wiring and replace as needed.
Internal Lights Not Working	Control Setting	Refer to the Interior Lighting Section.
		Unit set to Sabbath Mode. Refer to the Sabbath Mode Section.
	Door switch misaligned or defective	Refer to Reed Switch Section.
Noisy	Refrigeration tubing touching cabinet	Carefully reposition tubing.
	Fan blade obstruction (wiring, foam insulation, packaging material)	Remove obstruction.

## MAIN CONTROL

The main control board is very robust and is rarely the cause of system issues. It is important to fully diagnose the board for any suspected failures before attempting to remove the board for replacement or service. Follow the guidelines below to fully test and diagnose the main control.

### Power Fault

If the unit does not (or seems to not) power on, follow the flow chart below to help diagnose the issue. Before beginning it is important to first verify the unit is not simply set to sabbath mode.



## Testing The Main Control

If the main control is suspected of being faulty, the following procedure should be performed to verify main control for functionality.

### Relay & DC Outputs

One of the primary functions of the main control is to operate the multiple relay and DC outputs during each cycle. Verify proper operation of these relays using the following procedure.

1. Enter "Relay Toggle" through the service menu.

## NOTICE

**Frequently toggling the compressor relay could force the compressor into overload. The compressor will automatically deactivate during an overload and will remain deactivated until the overload switch cools. This could take some time. It is important to allow the compressor at least 5 minutes off time between relay cycles.**

2. Toggle the relay. Its related component should activate / deactivate with the switching of the relay. If it does not, see "Component Testing."

## Inputs

The main control monitors a number of thermistor inputs and switch states during operation. It would be unlikely that an error in reading an input would be at the board level. Always attempt to replace the faulty switch or thermistor input with a known working sample to verify proper board operation.

## Other Suspected Main Control Faults

If other components have been ruled out as being faulty but the unit continues to have operating issues, it is most likely due to a configuration error. Configuration errors can be cleared by restoring the unit to its factory default setting. Factory defaults may be restored through the service menu.

NOTE: If the unit is set to sabbath mode the evaporator fan will no longer respond to the state of the door switch.

In order to operate efficiently the evaporator fan blade and vents should be unobstructed and free of any dust buildup.



**Precautions must be taken while working with live electrical equipment. Be sure to follow proper safety procedures while performing tests on live systems.**

## CONVECTION COOLING

All 3000 series units are equipped with an advanced convection cooling system. Convection cooling stabilizes cabinet temperature, cools product faster and increases energy efficiency.

## Evaporator Fan

The evaporator fan is responsible for circulating warm air from the refrigeration zone, past the evaporator and back into the refrigerated zone.

The evaporator fan is factory set to have a 1 minute delay at the beginning of a cooling cycle. This delay gives the evaporator time to cool properly before warm air is passed over it. The fan will continue to run for an additional 2 minutes at the end of a cooling cycle. Fan delay times can be modified through the service menu.

Evaporator fan operation is also determined by door switch state. If the door switch circuit opens the fan will stop. When the door switch circuit is closed the fan will either continue running with the cooling cycle, or if not currently cooling, the fan will run for 1 minute to circulate air and clear any condensation that may have appeared on glass doors and shelves.

## FAULT SYSTEM DIAGNOSIS GUIDE

Error	Solution 1	Solution 2	Solution 3
No Comm	Inspect Customer UI and Data Cable (if defective replace entire door)		
Zone T Open	Inspect zone thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Evap T Open	Inspect evaporator thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Amb Thrm Open	Inspect ambient thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Zone T Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Evap T Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Amb Thrm Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Temp Hi 6H+	If excessive frost is also noted, inspect door and door gasket for proper seal and alignment.	Inspect evaporator fan for proper operation.	Inspect refrigeration system. Reference the System Diagnosis Guide.
Temp Hi 12H+	If excessive frost is also noted, inspect door and door gasket for proper seal and alignment.	Inspect evaporator fan for proper operation.	Inspect refrigeration system. Reference the System Diagnosis Guide.
Temp Lo 6H+	Inspect main control for proper relay operation.	Inspect refrigeration system. Reference the System Diagnosis Guide.	
Temp Lo 12H+	Inspect main control for proper relay operation.	Inspect refrigeration system. Reference the System Diagnosis Guide.	
Door Open 5M	Verify door closes properly.	Inspect cable arm, verify presence of magnet, verify proper operation and movement of arm.	Inspect reed switch wiring.

## THERMISTORS

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter. In an ice water bath (32°F) resistance should measure 16.1 kilohms.

**5K OHMS @ 77°**  
**16.1K OHMS - 32°F ambient**

## THERMISTOR FAILURE

### Limp Mode Data Table

Mode	ON	OFF
Beverage/Drinks	10 min.	45 min.
Market/Fresh	10 min.	45 min.
Root	5 min.	90 min.
Pantry	10 min.	45 min.
Deli	10 min.	45 min.

## Zone Thermistor

If the zone thermistor fails, the unit will continue to operate in a timed limp mode which varies by model. The unit will otherwise operate normally. The error will be displayed in the error log.

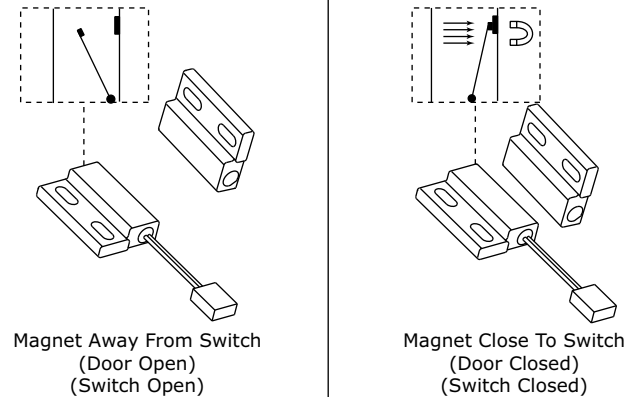
## Evaporator Thermistor

If the evaporator thermistor fails, the unit will rely on a preset defrost time during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors will be displayed in the error log.

Always assure that all thermistor connections are clean and dry. Whenever opening a thermistor connection be sure to apply a fresh dab of die electric grease.

## REED SWITCH

A reed switch is used to monitor door state. When the door is closed magnetic force pulls the reed to its contact and closes the circuit which turns the light and display off. When the door is open the reed pulls away from the contact and opens the circuit. If the door is left open for longer than 5 minutes, the switch will trigger an error code and set an audible warning.



## Control Operation - Service

### TO ENTER THE MAIN SERVICE MENU

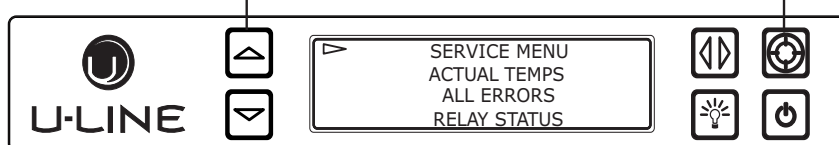
PRESS AND HOLD FOR 5 SECONDS  AND 

### TO GO TO NEXT SUB-MENU ITEM



YOU MUST ARROW UP TO "RETURN TO MENU"

TOUCH AND RELEASE  TO RETURN TO THE MAIN MENU

SCROLL  
THROUGH  
MENU





ENTER & EXIT  
SUB-MENU ITEM

ACTUAL TEMPS	SHOWS TEMPERATURES WITHOUT OFFSETS. EACH ZONE HAS AN EVAP AND AIR THERMISTOR. EACH UNIT HAS AN AMBIENT THERMISTOR	RETURN TO MENU ACTUAL TEMPS LEFT ZONE = 52° LEFT EVAP = 52°
ALL ERRORS	DISPLAYS THE NUMBER OF TIMES AN ERROR HAS OCCURRED SCROLL TO THE END TO ERASE THE ERROR CODES	RETURN TO MENU ALL ERRORS NO COMM 3 L ZONE T OPEN 0
RELAY STATUS	DISPLAYS THE CURRENT STATUS OF THE RELAYS ON THE BOARD (not all relays are used on all models)	RETURN TO MENU RELAY STATUS MULL COND DEF LVLV OFF OFF OFF ON
RELAY TOGGLE	ALLOWS THE RELAYS TO BE TOGGLED ON/OFF TO CHECK RELAY & COMPONENT YOU CAN TURN ON MULTIPLE RELAYS TO CHECK A ZONE, (COMP FAN ETC)	RETURN TO MENU RELAY TOGGLE MULL OFF COND OFF
INPUT STATUS	DISPLAYS DOOR SWITCH STATE, TEST INPUT, AND USB STATE	RETURN TO MENU INPUT STATUS LEFT DOOR CLOSED RIGHT DOOR OPEN
OUTPUTS	MONITORS THE STATE OF DC OUTPUTS (evap & condenser fans 0 - 100% and lighting off - low - med - high)	RETURN TO MENU OUTPUTS L EVAP FAN = 0% R EVAP FAN = 0%
OFFSETS	OFFSETS ARE USED TO ADJUST OR CORRECT THERMISTOR READINGS CORRECTED VALUES MAY BE VIEWED THROUGH THE CUSTOMER MENU	RETURN TO MENU OFFSETS RIGHT ZONE = -18°C RIGHT EVAP = -17°C
SELF TEST	SELF TEST IS USED TO DIAGNOSE THE BOARD IF NO ERRORS ARE PRESENT "NO ERRORS" WILL BE DISPLAYED, THE MAIN BOARD IS FUNCTIONING PROPERLY	RETURN TO MENU SELF TEST NO ERRORS
DIFFERENTIALS	DIFFERENTIALS ARE USED TO DETERMINE AT WHAT TEMPERATURE THE UNIT CYCLES. "0" SETTING IS +/- 2° DIFFERENTIAL	RETURN TO MENU DIFFERENTIALS LEFT = -16°C RIGHT = -16°C
EVAP FAN	THIS MENU IS USED TO SET THE DURATION THE EVAPORATOR FAN WILL RUN AFTER THE COMPRESSOR CYCLES OFF	RETURN TO MENU EVAP FAN EVAP FAN ON = 1 EVAP FAN OFF = 60
MULLION	THIS MENU IS USED TO SET THE DURATION THE MULLION HEATER WILL BE ON AFTER THE COMPRESSOR CYCLES OFF	RETURN TO MENU MULL MULL ON=5 MULL OFF=30
FACTORY DEFAULT	FACTORY DEFAULT IS USED TO RESTORE ALL SETTINGS TO THE FACTORY DEFAULT FOR THE SELECTED MODEL	RETURN TO MENU FACTORY DEFAULT RESTORE?
RE-SELECT MODEL #	RE-SELECT MODEL IS USED TO MODIFY THE MODEL INFORMATION CHANGING THE MODEL COMPLETELY REPROGRAMS AVAILABLE ZONES	RETURN TO MENU RE-SELECT MODEL 3090WCWC
FACTORY Wi Fi	THIS SETTING IS FOR FACTORY USE ONLY AND SHOULD REMAIN OFF	RETURN TO MENU FACTORY WIFI OFF
SET POINTS	THE SET POINTS MENU IS USED TO MODIFY BOTH THE ZONE AND EVAP SET POINTS THE EVAP SET POINT IS USED DURING DEFROST, IT MUST REACH 42°F (6°C)	RETURN TO MENU SET POINTS LEFT ZONE = 12°C LEFT EVAP = 7°C
FAN DELAY	FAN DELAY ALLOWS MODIFICATION OF FAN RUN TIMES BOTH AT THE START OF A COOLING CYCLE AND AT THE END AFTER THE COMPRESSOR STOPS	RETURN TO MENU FAN DELAY FAN 1 DELAY OFF = 1 FAN 2 DELAY ON = 2
SHOWROOM MODE	RANDOMLY SCROLLS THROUGH ZONES, MODES, TEMPERATURES AND OTHER FEATURES. TOUCH AND HOLD  TO EXIT SHOWROOM MODE	RETURN TO MENU SHOWROOM MODE OFF
EXIT	SCROLL DOWN TO "EXIT". TOUCH AND RELEASE  TO EXIT SERVICE MODE	FAN DELAY USB PORT SHOWROOM MODE EXIT

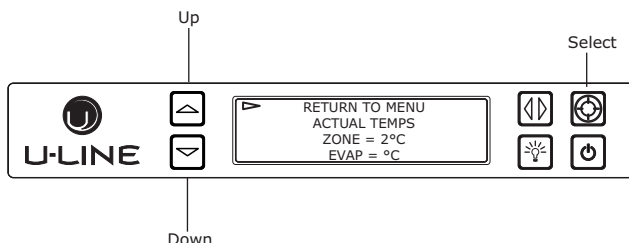


## SERVICE MENU





In addition to a feature rich customer menu, the 3000 series also offers a service menu with the ability to fine tune and monitor unit operation.



To initiate the Service menu hold both  and  for 5 seconds.

### Actual Temps

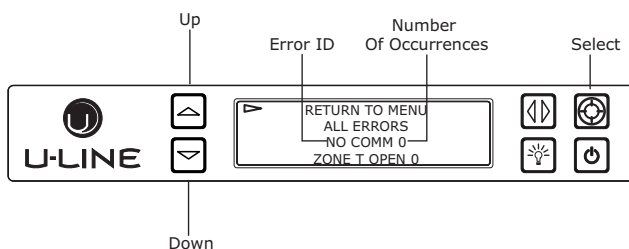


The Actual Temp option in the service menu will display raw thermistor readings without calculating offsets.

1. Press  to select "Actual Temps".
2. Press .
3. Use  and  to scroll through available thermistor readings.

To exit the Actual Temps menu press  to select "Return to Menu" and press  to confirm.





### All Errors







The All Errors option keeps record of any system errors. When an error occurs it is recorded to all errors. The number next to the error indicates the number of recorded instances. Errors in the log may not be currently active. The error log memory is non volatile and is persistent should power be lost and restored to the unit. See below for a list of logged errors and their respective descriptions.

ID	Description	Solution
No Comm	Unit lost communication to the display	Check connection to Display board and Main board. Check integrity of wires. If unit not operational, replace wire, if functioning properly, then software re-set and no adjustments are needed.
L Zone T Open	Left Zone thermistor circuit open	Check thermistor connection to harness for moisture or corrosion. Also check connection where thermistor harness attaches to main board. If connections are valid replace the thermistor.  NOTE: DWR/ZWC models, L indicates TOP zone, R indicates BOTTOM zone.
R Zone T Open	Right Zone thermistor circuit open	
L Evap T Open	Left Evaporator thermistor circuit open	
R Evap T Open	Right Evaporator thermistor circuit open	
Amb Thrm Open	Ambient thermistor circuit open	
L Zone T Short	Left Zone thermistor circuit short	
R Zone T Short	Right Zone thermistor circuit short	Is condenser coil clean? Is condenser fan operating? Check zone thermistor for correct resistance. Verify thermistor connections are clean and intact. Check zone valve operation. Sealed system issue?  NOTE: DWR/ZWC models, L indicates TOP zone, R indicates BOTTOM zone.
L Evap T Short	Left Evaporator thermistor circuit short	
R Evap T Short	Right Evaporator thermistor circuit short	
Amb Thrm Short	Ambient thermistor circuit short	
L Temp Hi 6H+	Left Zone temperature +10°F (+5°C) over set point for over 6 hours	
R Temp Hi 6H+	R Zone temperature +10°F (+5°C) over set point for over 6 hours	
L Temp Hi 12H+	Left Zone temperature +10°F (+5°C) over set point for over 12 hours	Verify thermistor connections are clean and dry. Verify thermistor resistance. Verify correct operation of zone valve.  NOTE: DWR/ZWC models, L indicates TOP zone, R indicates BOTTOM zone.
R Temp Hi 12H+	R Zone temperature +10°F (+5°C) over set point for over 12 hours	
L Temp Lo 6H+	Left Zone temperature -10°F (-5°C) over set point for over 6 hours	
R Temp Lo 6H+	R Zone temperature -10°F (-5°C) over set point for over 6 hours	
L Temp Lo 12H+	Left Zone temperature -10°F (-5°C) over set point for over 12 hours	
R Temp Lo 12H+	R Zone temperature -10°F (-5°C) over set point for over 12 hours	
L Door Open 5M	Left door switch open for more than 5 minutes.	Check door switch magnet reed switch alignment when door is in closed position. Check reed switch connection at the harness and the main board.
R Door Open 5M	Right door switch open for more than 5 minutes.	NOTE: DWR models, L indicates TOP drawer, R indicates BOTTOM drawer.  NOTE: ZWC models indicate L Door for the only door present.

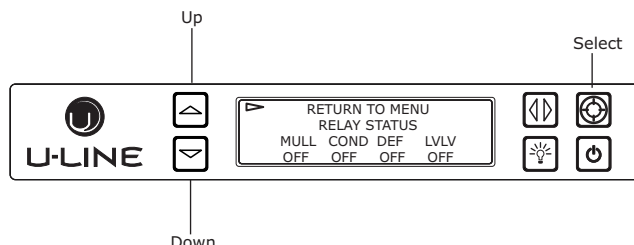
To access All Errors follow the steps below.

1. Press  to select "All Errors".
2. Press .
3. Press  and  to scroll through available information.

To clear the error log press  to select "Clear Errors" and press  to confirm.

To exit the Actual Temps menu press  to select "Return to Menu" and press  to confirm.

## Relay Status







Relay status displays the current state of each relay. While all available relays are displayed, only a portion are used.

ID	Description	Availability
Mull	Mullion Heater	Drawer Models
N/A	N/A	N/A
LVLV	Left (top) valve	All Models
RVLV	Right (bottom) valve	All Models
Cond	Condenser Fan	All Models
Comp	Compressor	All Models

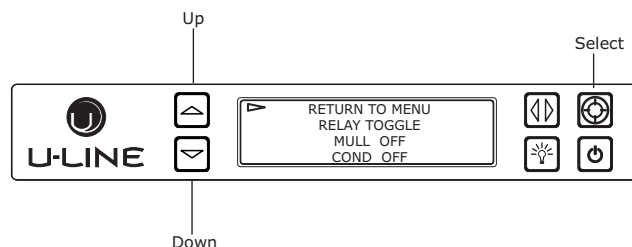
NOTE: The Cond (Condenser Fan) will switch state with the compressor relay, however the condenser fan is actually powered through a DC output. Condenser fan status can be viewed through the "Output" service menu option.

## To access Relay Status

1. Use  to select "Relay Status".
2. Press .
3. Press  and  to scroll through available information.

To exit the Relay Status simply press  to exit.

## Relay Toggle





Relay toggle is used to manually switch the state of each relay to test for proper operation. In addition to the AC relays, DC switches may also be toggled. Relay toggle can also be used to force the unit into a particular state.

ID	Description	Voltage
Mull	Mullion Heater (Drawers)	AC
N/A	N/A	N/A
LVLV	Left (top) valve	AC
RVLV	Right (bottom) valve	AC
Cond	Condenser fan (Not Used)	AC
Comp	Compressor	AC
Fan 1	Left/Top Condenser Fan (Excludes ZWC)	DC
Fan 2	Condenser Fan	DC
Fan 3	Right/Bottom Evaporator Fan (Excludes ZWC)	DC
Light 1	Left (top) light	DC
Light 2	Right (bottom) light	DC



## To access Relay Toggle

4. Press  to select "Relay Toggle".

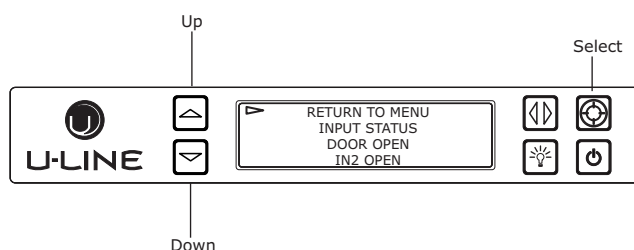
5. Press .

6. Press  and  to scroll through each relay and DC output.

7. Press  to toggle.

To exit the Relay Toggle menu press  to select "Return to Menu" and press  to confirm.





## Input Status





Input status displays the current state of each available input.

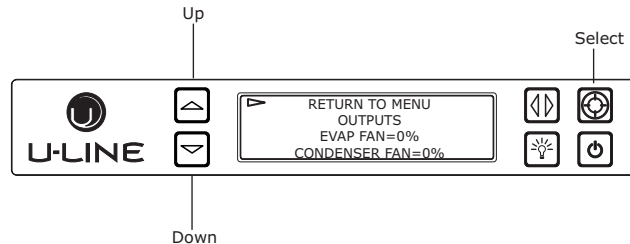
ID	Description	State
Left Door	Left (top) Door Switch	Open - Closed
Right Door	Right (bottom) Door Switch (excludes ZWC)	Open - Closed

## To access Input Status

1. Press  to select "Input Status".
2. Press .
3. Press  and  to scroll through available information.

To exit the Input Status menu press  to select "Return to Menu" and press  to confirm outputs.





## Outputs





Outputs is used to monitor the state of DC outputs.

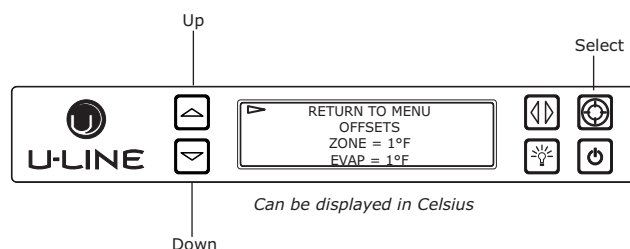
ID	Description	Value
L Evap Fan	Left (top) Evaporator Fan (excludes ZWC)	On - Off
R Evap Fan	Right (bottom) Evaporator Fan (excludes ZWC)	On - Off
Condenser Fan	Condenser Fan	On - Off
L Light	Left (top) Light	Off - Low - Med - High
R Light	Right (bottom) Light	Off - Low - Med - High

## To access Outputs

1. Press  to select "Outputs".
2. Press .
3. Press  and  to scroll through available information.

To exit the Input Status menu, press  to select "Return to Menu" and press  to confirm.

## Offsets







## NOTICE





**Do not make an adjustment to this without first contacting the tech line: (800) 779-2955.**



Offsets are used to adjust or correct thermistor readings. Offset values are added to the current thermistor reading and are then used by the control board to determine cooling and defrost cycle times. Offsets have a range of +/- 10°F. Corrected values may be viewed through the customer “All Temps” menu.

**To access Offsets**

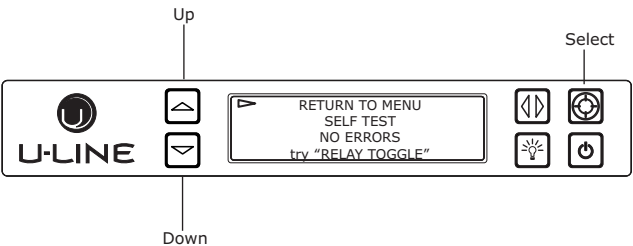
- 1. Press  to select “Offsets”.
- 2. Press .
- 3. Press  and  to scroll through available thermistors.

**To change offsets**

- 4. Press , the selected thermistor will begin to flash.
- 5. Press  or  to modify offset value.
- 6. Press  to confirm setting.





To exit the Offset menu, press  to select “Return to Menu” and press  to confirm.

**Self Test**



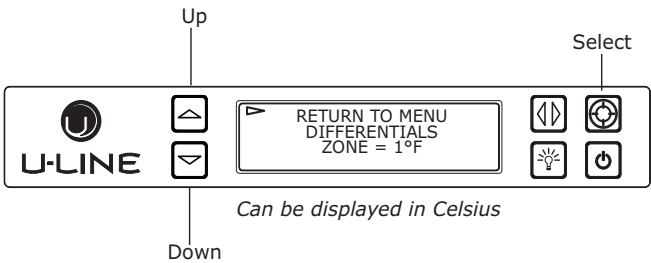
Self test is used to initiate a self diagnostic report. Any system faults will be displayed under Self test. If no errors are present “no errors” will be displayed and the main control board is functioning properly. The main control board is extremely robust and should rarely require service. Most issues are external to the control. Reference troubleshooting for more information.

**To access Self Test**

- 1. Press  to select “Self Test”.
- 2. Press .
- 3. Press  and  to scroll through available information.

To exit the Self Test, Press  to select “Return to Menu” and press .

**Differentials**



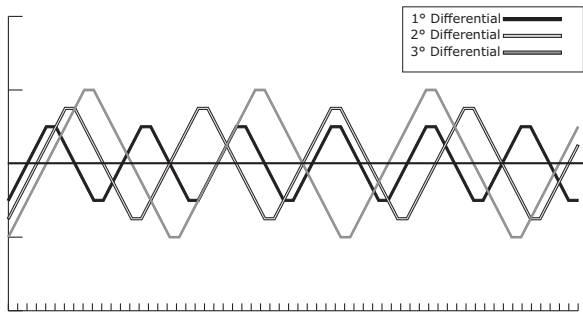
(DO NOT MAKE AN ADJUSTMENT TO THIS WITHOUT CONTACTING TECH LINE: 800-779-2955)

Differentials are used to determine the maximum variation from set point and have a range of 0 through 10. The table below shows the effect of differentials on cooling cycles with a set point of 45°F (7°C).

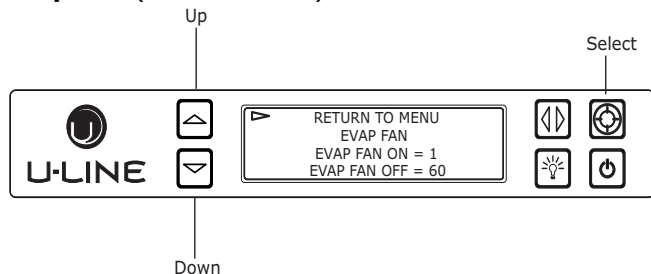
NOTE: Air temperature does not reflect product temperatures.

Differential	Cycle Start °F (°C)	Cycle End °F (°C)
0	45° (7°)	43° (6°)
1	46° (8°)	43° (6°)
2	47° (8°)	41° (5°)
3	48° (9°)	41° (5°)
4	49° (10°)	39° (4°)
5	50° (10°)	37° (3°)

The graph below shows a unit’s cooling cycle over time with various differentials.









## Evap Fan (excludes ZWC)



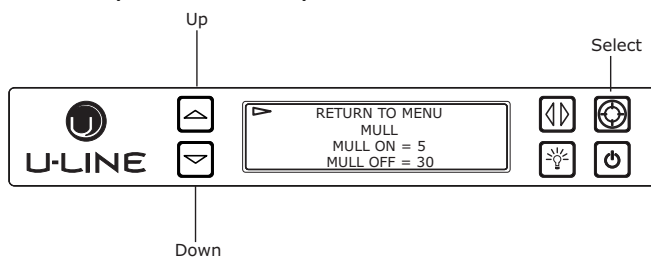
The Evap Fan option in the service menu allows servicers to change the Evaporator Fan runtime (in minutes) from 0 to 98 and OFF cycle time 0 to 98.

### To access Evap Fan

1. Press  to select "Evap Fan".
2. Press .
3. Press  and  to scroll through available settings.





To exit the Evap Fan menu, press  to select "Return to Menu" and press  to confirm.



## Mullion (Drawer Models)



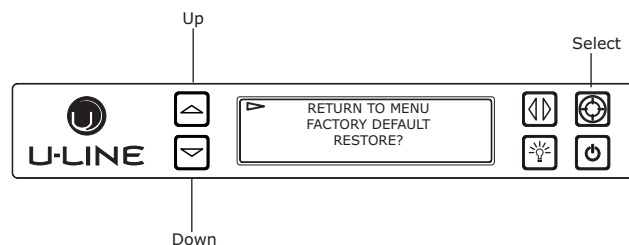
The Mullion (MULL) option in the service menu allows servicers to change the ON/OFF time in minutes of the MULL heater (DWR only) from 0 to 98.

### To access Mullion

1. Press  to select "MULL".
2. Press .
3. Press  and  to scroll through available settings.



To exit the MULL menu, press  to select "Return to Menu" and press  to confirm.

## Factory Default







Factory Default will restore all settings to their factory default.

### To access Factory Default

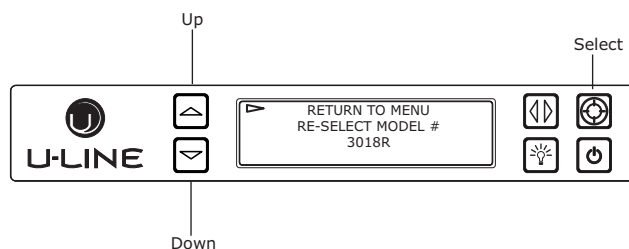
1. Press  to select "Factory Default".
2. Press .

### To restore settings to their factory default.

3. Press  to select "Restore?" and press .
4. "Restore?" will change to "Restoring..." while settings are restored. When restoration is complete, "Restoring..." will return to "Restore?".

To exit Factory Default, press  to select "Return to Menu" and press  to confirm.

## Re-Select Model





### NOTICE








**Before altering model selection U-Line customer service must be notified. Failure to notify customer service will result in voiding of the manufacturer warranty.**

Re-Select Model allows the units model information to be modified. Changing the units model completely reprograms available zones, relay assignments, DC output assignments etc.

## To access Re-Select Model

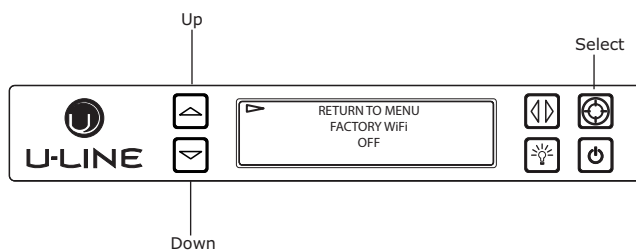
1. Press  to select "Re-Select Model".
2. Press .

## To change model setting





3. Press  to select "Model=" and press . "Model" will begin to flash.
4. Press  or  to scroll through each available model.
5. Press  to confirm. While processing, the  will momentarily change to .



To exit Re-Select Model, press  to select "Return to Menu" and press  to confirm. **(Power cycling unit is recommended after re-selecting model.)**

## Factory Wi Fi

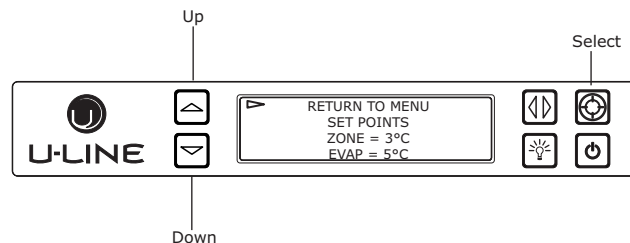


The Factory Wi-Fi option is only used in manufacturing and should always be OFF.

1. Press  to select "Factory Wi Fi".
2. Press .
3. Press  or  select "OFF".





To exit the Factory Wi Fi menu press  to select "Return to Menu" and press  to confirm outputs.

## Set Points









The Set points menu contains options to modify both the Zone and Evap set points. Changes to the zone set point will be reflected on the main screen. Changes to the evap set point alter the temperature the evaporator needs to meet during a defrost cycle.

## To access Set Points

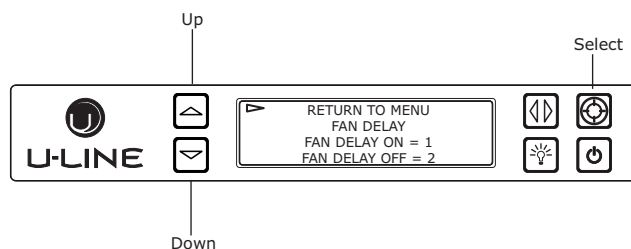
1. Press  to select "Set Points".
2. Press .
3. Press  and  to scroll through available set points.

## To change set points

4. Press , the selected set point will begin to flash.
5. Press  or  to modify the value.
6. Press  to confirm setting.

To exit the Set Points menu, press  to select "Return to Menu" and press  to confirm.

## Fan Delay (excludes ZWC)



The Fan Delay menu option allows the modification of fan run times during and after a cooling cycle. In order to allow time for the evaporator to properly cool, the evaporator fan is delayed from starting with the cooling cycle for a given amount of time. In order to remove as much warmth as possible from the cabinet the evaporator fan will continue to run at the end of the cooling cycle for a given amount of time.



## Fan Delay On=

"Fan Delay On" is the amount of time in minutes the fan will be delayed from starting from the beginning of a cooling cycle.






## Fan Delay Off=



"Fan Delay Off" is the amount of time in minutes the fan will continue to run at the end of a cooling cycle.

## To access Fan Delay

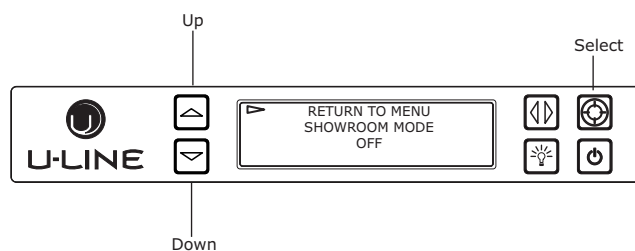
1. Press  to select "Fan Delay".
2. Press .

## To change fan delay

3. Press  to select either "Fan Delay On" or "Fan Delay Off" and press . The chosen option will begin to flash.
4. Press  or  to change settings.
5. Press  to confirm.








To exit Fan Delay, press  to select "Return to Menu" and press  to confirm.



## Showroom Mode



Showroom displays a number of features and allows the unit to be powered on without running the cooling system.

## To toggle showroom mode

1. Press  to select "Showroom Mode".
2. Press .
3. Press  to select "Off" and press . "Off" will begin to flash.
4. Press  or  to toggle between off and on.
5. Press  to confirm.

If set to "on" showroom mode will begin immediately. To exit showroom mode press  and hold for 5 seconds and release. The display will show a countdown to switching the unit off. Press  again and the unit will immediately switch on retaining the presets from before it entered showroom mode.

To exit the showroom mode menu, press  to select "Return to Menu" and press  to confirm.

## Thermistors

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter.

All thermistors in the unit are identical. If a thermistor is suspected of being defective the resistance can be verified. Place the thermistor in an ice water bath, the resistance should read 16.1k OHMs +/-5% on your meter.

Thermistor connections must be kept clean. A thermistor connection that has become corroded can cause resistance values from the thermistor to change as they pass through a dirty connection to the board.

It is for that reason that we apply dielectric grease to all of our thermistor connections. Dielectric grease will help to keep thermistor connections clean and dry.

If you change a thermistor in the unit please re-apply dielectric grease to the connection. If you encounter a dirty thermistor connection, you should replace the thermistor and the thermistor harness.

Thermistor error information can be found in the Control Operations - Service section.

This unit has **five** thermistors.

### Thermistor one (Zone):

Located along the right hand side wall in the top/left compartment. It is used to maintain the operating temperature within that zone.

### Thermistor two (Evaporator):

Located on the evaporator in the top/left compartment. It is used for defrost.

### Thermistor three (Zone):

Located along the right hand side wall in the bottom/right compartment. It is used to maintain the operating temperature within that zone.

### Thermistor four (Evaporator):

Located on the evaporator in the bottom/right compartment. It is used for defrost.

### Thermistor five (Ambient):

Located in the base of the unit (secured to the condenser). It is used to monitor the ambient temperature within the base compartment. It is used for diagnostics.

## THERMISTOR FAILURE

### Zone Thermistors

If a zone thermistor(s) in the unit fails the unit will continue to cool in a backup mode (Self Preservation Mode) to preserve the integrity of the contents. The unit will otherwise operate normally.

2000 Series Self Preservation Mode:

The unit will cycle on for 10 minutes then off for 40 minutes.

3000 Series Self Preservation Mode:

Cycle times determined by zone - see chart. The error will be displayed on the main display, "Self Test" and logged in "All Errors."

Self Preservation Mode Data Table - 3000 Series

Mode	ON	OFF
Beverage/Drinks	10	45
Market/Fresh	10	45
Root	5	90
Pantry	10	45
Deli	10	45
White Wine	5	60
Red Wine	5	60
Sparkling Wine	10	60
Polar	55	5



## Evaporator Thermistors

If an evaporator thermistor fails the unit will rely on a preset defrost timer during defrost cycles. The unit will otherwise operate normally. Refer to defrost section.

## Ambient Thermistor

If the thermistor fails the unit will operate normally.

Thermistor Resistance Data

Temp (F)	Temp (C)	Nominal Resistance (OHMS)*
-40	-40	169157
-31	-35	121795
-22	-30	88766
-13	-25	65333
-4	-20	48614
5	-15	36503
14	-10	27681
23	-5	21166
32	0	16330
41	5	12696
50	10	9951
59	15	7855
68	20	6246
77	25	5000
86	30	4029
95	35	3266
104	40	2665
113	45	2186
122	50	1803
131	55	1495
140	60	1247
149	65	1044
158	70	879
167	75	743
176	80	631

\* (+/-5%)

## Defrost

The models below have automatic or frost free design and do not require manual defrosting under normal conditions.

Defrost Settings				
Base Model	Variant(s)	Compressor Run Time Between Defrost (Hours)	Duration in Minutes (Maximum)	Stop Temperature °F (°C)
1224	RF	12	45	15 (-9)
1215/1224/2218/2245/2224/2260	WC, ZWC	12	45	45 (7)
1215/1224/2218/2245/2224/2260	R, RSOD, RDC, BEV, DC, DWR, RGL	12	45	42 (6)
CO29	F	12	18	n/a
CO1224	F	12	18	45 (7)
1224FZR	Freezer Mode	6	45	42(6)
1224FZR	Refrigerator Mode	12	45	42(6)

The defrost settings for 3000 series models are determined by zone.

Defrost Settings by Zone (3000 Series)				
Zones	Compressor Run Time Between Defrost (Hours)	Duration in Minutes (Minimum)	Duration in Minutes (Maximum)	Stop Temperature °F (°C)
Beverage/Drinks	12	5	60	42 (6)
Market/Fresh	12	5	60	42 (6)
Root/Root Cellar	12	5	60	45 (7)
Pantry	12	5	60	42 (6)
White Wine	12	5	60	45 (7)
Red Wine	12	5	60	45 (7)
Sparkling Wine	12	5	60	45 (7)
Polar	6	5	20	42 (6)
Deli	12	5	60	42 (6)

## Remove Fan and Cover

### CONVECTION COOLING

This unit is equipped with an advanced convection cooling system. Convection cooling stabilizes cabinet temperature, cools product faster and increases energy efficiency.

### Evaporator Fan

The evaporator fan is responsible for circulating warm air from the refrigeration zone, past the evaporator and back into the refrigerated zone.

The evaporator fan is factory set to have a 1 minute delay at the beginning of a cooling cycle. This delay gives the evaporator time to cool properly before warm air is passed over it. The fan will continue to run for an additional 2 minutes at the end of a cooling cycle.

Evaporator fan operation is also determined by door switch state. If the door switch circuit opens, the fan will stop. When the door switch circuit is closed the fan will either continue running with the cooling cycle, or if not currently cooling, the fan will run for 1 minute to circulate air and clear any condensation that may have appeared on glass doors and shelves.

*Note:* If the unit is set to sabbath mode, the evaporator fan will no longer respond to the state of the door switch.

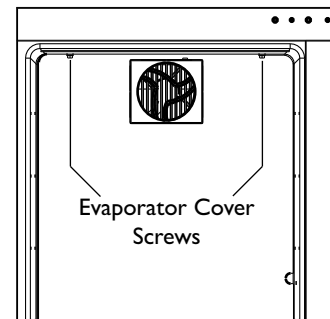
In order to operate efficiently, the evaporator fan blade and vents should be unobstructed and free of any dust buildup.

### Evaporator Fan Replacement

Should the evaporator fan need to be replaced follow the steps below.

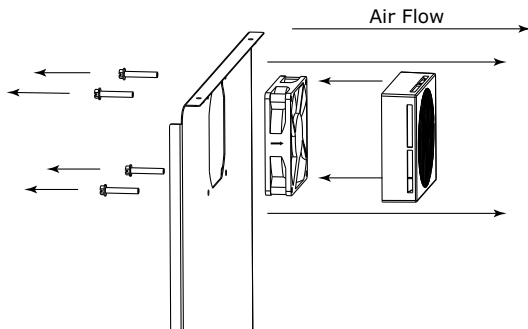
1. Remove any product from the unit.
2. Uninstall unit.
3. Disconnect power to the unit.

4. Remove back panel from unit.
5. Disconnect fan electrical connection
6. Remove insulating foam from refrigerant line pass-through hole as needed to gain clearance for fan plug.
7. Remove the drawer from the zone with defective fan.
8. Remove thermistor cover.
9. Remove two evaporator cover screws from top of evaporator cover.



10. Grasp evaporator fan cover and gently pull away from the rear of the unit.
11. While pulling the evaporator cover clear of the unit, it may be necessary to use your free hand to manipulate the fan plug end through the pass-through hole.

12. Remove the 4 screws mounting the fan shroud to the evaporator plate.



13. Remove and replace fan. Take special care to properly route fan wire.

## NOTICE

**Fan must be oriented to pull air in through lower evaporator plate vents and push air out at fan mounting location.**

14. Installation is the reverse of removal.

15. Use sealant gum to seal any holes in the rear of the unit before replacing the rear cover.

16. Reinstall the unit taking care to level, center and secure as you found it.