



# USER MANUAL

# REFRIGERATOR

## Commercial Opened Air Merchandiser Refrigerator

Model:  
KM-CDA-18C-SS



***Before using, please read the operating instructions carefully to ensure proper application and achieve satisfactory results.***

***For any service-related Issues, please contact  
us: Phone Number: 718-576-6342  
Email address: [support@koolmore.com](mailto:support@koolmore.com)***

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## General

### Introduction

The 18 cu. ft Stainless Steel Open Air Merchandiser Refrigerator is an innovative chilling cabinet that marks the latest development in refrigeration technology. It combines both domestic and foreign advanced technologies based on standard food cabinet criteria, ensuring top-tier performance and reliability.

Key parts and components are supplied by leading brands, ensuring the highest standards of quality and dependability. The product is designed with careful attention to real market demands, featuring a streamlined design that adheres to ergonomics, allowing for easy and intuitive use.

### Product Application

This refrigerator series is primarily designed for display and sale of various items such as drinks, dairy products, vegetables, and fruits. It provides an open, easily-accessible storage solution that keeps your products fresh and readily visible to customers. Perfect for use in retail environments such as grocery stores, convenience stores, cafes, and more.

Please refer to the other sections of this manual for detailed instructions on assembly, installation, use, maintenance, troubleshooting, and warranty information. Your understanding and proper operation of this product will ensure its optimal performance and long-term service.

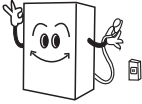
## Structure and Parts



# Assembly and Care Instructions

## Handle with Care

Ensure to unplug the refrigerator from the wall socket prior to moving. Never tilt the refrigerator beyond a 45-degree angle while handling.



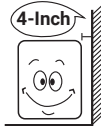
## Dry Location

Always position the refrigerator in a dry location.



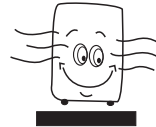
## Ensure Sufficient Space

Maintain at least a 4-inch distance between the refrigerator's sides and back, and any walls or objects. This distance is crucial for proper air circulation. Insufficient space can impair the refrigerator's cooling ability.



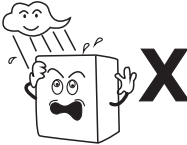
## Proper Ventilation

Place the refrigerator in a well-ventilated location. After relocating the refrigerator, allow it to stand unplugged for 2 hours before plugging it back into the wall socket for initial startup.



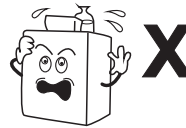
## Avoid Heat Sources

Position the refrigerator away from direct sunlight and other heat sources like heaters. Exposure to such conditions can negatively impact the refrigerator's cooling efficiency.



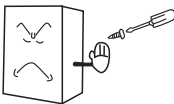
## Avoid Heavy Loads

Do not place heavy objects atop the refrigerator.



## No Modifications

Refrain from making any alterations, such as drilling holes or installing additional items, to the refrigerator.



## Stable Placement

Carefully unpack the refrigerator and position it on a flat, stable surface. This precautionary measure will help prevent unwanted noise and vibrations.



# Preparation and Power Supply

## Dedicated Power Socket

The refrigerator should be powered by a 110-120V, 60Hz single-phase AC supply through a dedicated single-phase three-pin receptacle.



## Avoid Socket Sharing

The refrigerator should never share a common socket with other appliances to prevent overheating of the power cable, which could lead to a fire.



## Protect Cables

Ensure the power cables are not damaged or compromised to prevent electrical leakage and potential fire hazards.



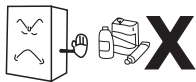
## Avoid Water Exposure

Do not expose the refrigerator surface to water to avoid electrical leakage.



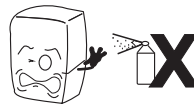
## Avoid Flammables and Explosives

Never store any flammable or explosive substances such as ether, gasoline, alcohol, adhesive, and explosives in the refrigerator. Avoid placing these dangerous substances near the refrigerator.



## No Spraying

Spraying of flammable substances such as paint or coatings near the refrigerator is prohibited, as it could lead to a fire.



## After Power Interruption

Following a power interruption or after unplugging the refrigerator, wait at least 5 minutes before plugging in and restarting the refrigerator.



## Avoid Storing Medication

Do not store medication inside the refrigerator.

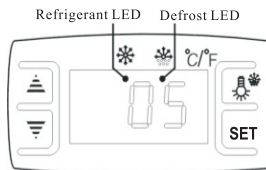


# Usage and Precautions

## 1. Initial Use

- Plug the refrigerator into an exclusive 110-120V~ socket.
- After the refrigerator is running, check the air suction for sufficient coldness. If it's sufficiently cold, you may put food inside the cold box.
- This appliance is not intended for use by individuals (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Ensure children do not play with the appliance unsupervised.

## 1. Digital Temperature Controller



### A. Features:

The controller is mini-sized and intelligent, suitable for one Hp compressors. Its functions include: Temperature Display/Control, Manual and Automatic Defrost, Illumination Control, Value Storing, Self-Testing, and Parameter Locking.

### B. Front Panel Operations:

#### 01. Temperature Setting:

Press the "SET" button to display the set temperature. Use "▲" or "▼" buttons to adjust and store the temperature. Press "SET" again to exit and display the cold-room temperature.

#### 02. Display Default:

If no button is pressed within 10 seconds, the cold-room temperature will be automatically displayed.

#### 03. Lighting and Defrost Control:

Press "☑" button to control the light; hold it for 6 seconds to start or stop the defrost cycle.

#### 04. Refrigerant LED:

The LED is on during refrigeration and flashes when the cold room temperature is stable.

#### 05. Defrost LED:

The LED is on during defrosting and turns off when defrosting ends.

#### 06. Digital Controller Reset:

If the display shows "Disorder", press "▼" for 2 seconds until the buzzer rings. Quickly press "▲" for 6 seconds until the buzzer rings again. The display will flash for 3 seconds and the controller will reset to factory settings.

## Digital Controller Troubleshooting

Fault Code	Cause	Solution
EE1	Open circuit or short circuit of temperature probe	<ul style="list-style-type: none"> <li>Check if the plug on the mainboard is loose. If so, Secure it or replace the temperature probe if necessary.</li> </ul>
EE2	Open circuit or short circuit of defrosting probe	<ul style="list-style-type: none"> <li>Check if the plug on the mainboard is loose. If so, Secure it or replace the defrosting probe if necessary.</li> </ul>
EE3	Open circuit or short circuit of the overheating probe	<ul style="list-style-type: none"> <li>Check if the plug on the mainboard is loose. If so, Secure it or replace the overheating probe if necessary.</li> </ul>
EE4	Overheating probe initiates protective program 136.4°F	<ol style="list-style-type: none"> <li>1. Condenser may have too much dust - Clean the condenser.</li> <li>2. Condenser motor might have stopped working - Repair or replace the motor.</li> <li>3. The unit might be too close to the wall - Maintain at least 50cm of space between the product and the wall.</li> <li>4. Ambient temperature could be too high - Ensure the ambient temperature stays within the range specified on the rating label.</li> </ol>

## Refrigerator Troubleshooting

#	Issues	Causes	Solutions
1	Noise from Bottom Shelf	Fan blade may be broken.	Power off the unit and repair the fan blade.
2	Fridge is Not Cooling	<ol style="list-style-type: none"> <li>1. Unit is switched off.</li> <li>2. Defrosting process is ongoing.</li> <li>3. Refrigerant is leaking.</li> <li>4. Unit malfunction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch on the unit.</li> <li>2. Wait for the defrosting process to complete.</li> <li>3. Repair the leak and refill refrigerant.</li> <li>4. Contact a professional service agent.</li> </ol>
3	Weak Airflow and Fridge Too Warm	<ol style="list-style-type: none"> <li>1. Frost blocking the evaporator.</li> <li>2. Damaged internal fan.</li> <li>3. Set point of temperature controller is too low.</li> <li>4. Storage is blocking the vent.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase defrosting frequency.</li> <li>2. Replace the internal fan.</li> <li>3. Adjust the temperature controller's set point.</li> <li>4. Remove storage blocking the vent.</li> </ol>
4	Normal Airflow but Fridge Too Warm	<ol style="list-style-type: none"> <li>1. Insufficient refrigerant.</li> <li>2. Set point of temperature controller is too high.</li> <li>3. External airflow disturbing the air curtain.</li> <li>4. Ambient temperature or humidity is too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refill the refrigerant.</li> <li>2. Adjust the temperature controller's set point.</li> <li>3. Remove the source of external airflow.</li> <li>4. Improve ambient conditions.</li> </ol>
5	Overflowing Defrost Water	<ol style="list-style-type: none"> <li>1. Damaged heating pipe for defrost water.</li> <li>2. Water-level controller malfunction.</li> <li>3. Ambient temperature or humidity is too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the heating pipe.</li> <li>2. Replace the water-level controller.</li> <li>3. Improve ambient conditions.</li> </ol>
6	Temperature Inside Fridge Keeps Changing	<ol style="list-style-type: none"> <li>1. Contaminated condenser.</li> <li>2. Poor ventilation around the unit.</li> <li>3. Failed compressor heat protection.</li> <li>4. Ice blocking the capillary.</li> <li>5. Faulty temperature controller.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the condenser.</li> <li>2. Improve ventilation around the unit.</li> <li>3. Replace the compressor heat protection.</li> <li>4. Replace the dryer filter.</li> <li>5. Replace the temperature controller.</li> </ol>

## Note

Certain phenomena are normal and should not be considered as faults with your refrigerator:

- A murmuring or gurgling sound may be heard when the refrigerator is running. This is normal as it's simply the coolant circulating within the system.
- In humid weather, condensation may form on the exterior of the refrigerator. This is also normal and not a cause for concern. It occurs due to high humidity levels. Simply wipe it off with a cloth.

# Maintenance Tips

## 1. Cabinet Cleaning

Clean the product weekly with the power supply disconnected. Use mild water or non-corrosive cleaner. Avoid washing directly with a water faucet.

## 2. Condenser Cleaning

For optimal performance, clean the condenser every month. If "EE4" message appears on the display, clean the condenser immediately. If "EE4" appears again after cleaning, please contact your service provider. To clean, turn off the power, loosen the screws on both sides, remove the front panel, and clear the dust on the condenser fin using a wire brush or high-pressure air gun.



## 3. De-dusting the Condenser

Clean the condenser every three months with the power supply disconnected. Remove the bottom panel for air suction and eliminate dust on the cooling fin of the condenser with a wire brush or high-pressure air gun.

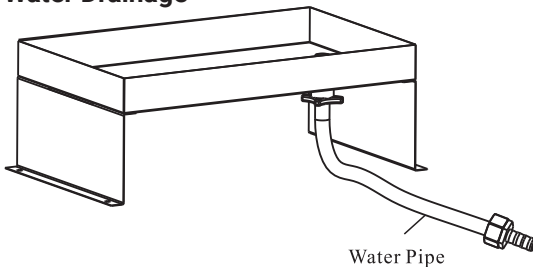
## 4. Leakage Check

Regularly check all connectors and welding joints for oil stains. If you spot any, implement patching measures or call a professional for help.

## 5. General Observation

Regularly observe the operation of the product. If you notice abnormal noise, smell, or smoke, disconnect the power supply immediately and call a professional. Do not restart the product before the issue is resolved.

## 6. Condensation Water Drainage



Please ensure the water pipe is unobstructed, and its position is lower than the joint connected to the upper water receiver. This setup allows for efficient and uninterrupted drainage, which is crucial for maintaining optimal performance and longevity of your unit.

If you notice any blockage or issues with the drainage, we recommend calling a professional to address the problem.

### Please note:

We will not be responsible for any accidents incurred by failure to follow these guidelines.

# Principle of Refrigeration System and Electric Circuit Diagram

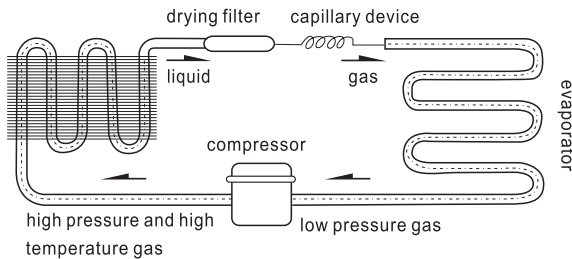
The principle of the compression refrigeration system revolves around four main steps: "compression," "condensation," "throttling," and "vaporization."

The process operates as follows:

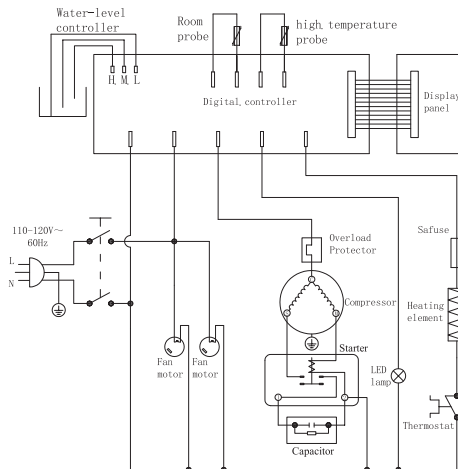
- **Compression:** The compressor takes in the coolant, which has absorbed heat in the evaporator, turning it into a high-pressure, high-temperature gas.
- **Condensation:** In the condenser, the coolant dissipates heat into the air. As a result, the coolant re-liquefies.
- **Throttling:** This phase is executed by the capillary, which throttles the re-liquefied coolant into the evaporator at a low pressure.
- **Vaporization:** Upon entering the evaporator, the liquefied coolant quickly boils and vaporizes into a gas due to the sudden drop in pressure. In this phase, it absorbs heat from inside the refrigerator.

Finally, the compressor again takes in the low-pressure, low-temperature gaseous coolant.

The process repeats itself in a cycle, enabling the refrigerator to maintain its cool temperature.



## Circuit Diagram



## Major Parameters

Model	<b>KM-CDA-18C-SS</b>
Coolant and injection quantity (g)	R290 & 490
Rated Input Power (W)	1320
Type of Climate	3
Refrigeration Temperature (°F)	°35.6 - °50
Max.ambienttemp./RH	°77 (°F) / 60%
Total effective volume (Cu.Ft.)	19.7
Net weight (LB)	289.9
Rated voltage (V)	110-120~
Rated Current (A)	14
Rated Frequency (Hz)	60
Overall dimension (IN) (LxWxH)	35.2" x 20" x 79.9"
Blowing Gas	C <sub>5</sub> H <sub>10</sub>

## Note

- In the event of any changes, the final electric circuit diagram and parameters will be those specified on the product nameplate.
- Our design may be improved without prior notice to continuously enhance product performance and user experience.
- If the supply cord is damaged, it must be replaced immediately by the manufacturer, its service agent, or a similarly qualified professional to avoid potential hazards.



### WARNING

This refrigerator utilizes R290, a flammable refrigerant. Please exercise utmost caution to prevent fire risks. The enclosed warning symbol triangle is at least 0.59 inches in height to emphasize the importance of this safety information.

### Disposal Instructions



The crossed-out wheeled dustbin symbol indicates that electrical appliances should not be disposed of as unsorted municipal waste. Instead, utilize separate collection facilities.

For information regarding the available collection systems, contact your local government. If electrical appliances are improperly disposed of in landfills or dumps, hazardous substances can leak into the groundwater and enter the food chain, posing risks to health and well-being.

When replacing old appliances with new ones, check with your retailer about any haul-away or recycling programs they may offer for your old appliance. Remember to also check local regulations and available recycling programs in your area to ensure proper disposal.



# WARRANTY

## LIMITED WARRANTY

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LIMITED WARRANTY KOOLMORE SUPPLY, INC. warrants to the original consumer or purchaser this KOOLMORE product is free from defects in material or workmanship for a period of One (1) year from the date of purchase. If any such defect is discovered within the warranty period, KOOLMORE SUPPLY, INC., at its discretion, will repair or replace the product at no cost or pay for replacement parts and repair labor to correct defects in materials or workmanship that existed when this major appliance was purchased or that are the result of normal usage when this major appliance is installed, operated and maintained according to instructions attached to or furnished with the product, At its sole discretion. Koolmore Supply Inc may determine to replace the product. In the event of product replacement, your appliance will be warranted for the remaining term of the original unit's warranty period.

This limited warranty is good only to the original purchaser of the product and effective only when used in the United States.

This limited warranty is effective from the date of original consumer purchase. Proof of original purchase date is required to obtain service under this limited warranty.

YOU'RE SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR AS PROVIDED HEREIN.

Service must be provided by a Koolmore designated service company.

For warranty or repair service: Email us at [support@koolmore.com](mailto:support@koolmore.com) include your name, address, phone number, warranty repair request, and a copy of your proof of purchase receipt.

You can also visit us at [koolmore.com](http://koolmore.com) and use the contact us page.

KOOLMORE customer service will contact you and arrange prompt service for your appliance.

Thank you for choosing KOOLMORE.

## THIS LIMITED WARRANTY DOES NOT APPLY TO

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- 1.Failure of product to perform during power failures and interruptions or inadequate electrical service
- 2.Damage caused by transportation or handling.
- 3.Damage caused to the product by accident, vermin, lightning winds, fire, floods, or acts of God.
- 4.Damage resulting from accident, alteration, misuse, abuse, or improper installation, repair, or maintenance. Improper use includes using an external device that alters or converts the voltage or frequency of electricity
- 5.Any unauthorized product modification, repair by unauthorized repair center, or use of non-approved replacement parts.
- 6.Abnormal cleaning and maintenance as described in the user's manual.
- 7.Use of accessories or components that are not compatible with this product.

The cost of repair or replacement under these excluded circumstances shall be borne by the consumer.

