

E-1620
0509



SQ3CD, SQ4CD, SQ5CD, SQ6CD, SQ8CD

Self-Contained & Remote Models

INSTALLATION & OPERATION INSTRUCTIONS



KEEP THIS MANUAL FOR FUTURE REFERENCE
Engineering and technical data are subject to change without notice.

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INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Market Deli Refrigerated Cases. A repair parts list and wiring diagram are also included in the manual. Read all of these documents carefully before installing or servicing your case.



NOTICE

Read this manual before installing your case. Keep this manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the case.



NOTICE

Installation and service of the electrical components in the case must be performed by a licensed electrician.

The portions of this manual covering electrical components contain technical instructions intended only for persons qualified to perform electrical work.



DANGER

Improper or faulty hookup of electrical components in the case can result in severe injury or death.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

SERIAL NUMBER

Record the model and serial numbers of the case for easy reference. Always refer to both model and serial numbers in your correspondence regarding the case.

Case Model _____ Serial Number _____
Condensing Unit Model _____ Serial Number _____

This manual cannot cover every installation, use, or service situation. If you need additional information, call or write us:

Warranty/Technical Service Department
Toll Free (800) 356-4206
WI Phone (608) 424-3331
geninfo@federalind.com

WARNING LABELS & SAFETY INSTRUCTIONS



This is the safety-alert symbol. When you see this symbol on your case or in the manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating practices.



NOTICE TO EMPLOYERS

You must make sure that everyone who installs, uses, or services your case is thoroughly familiar with all safety information and procedures.

Important safety information is presented in this section and throughout the manual. The following signal words are used in the warnings and safety messages:

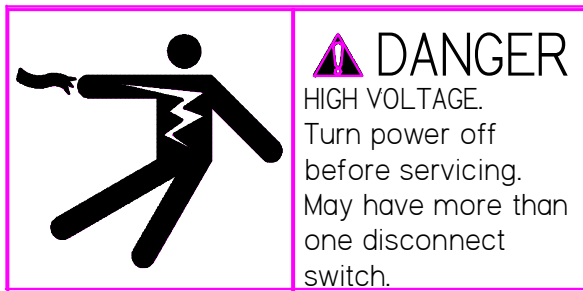
DANGER: Severe injury or death will occur if you ignore the message.

WARNING: Severe injury or death can occur if you ignore the message.

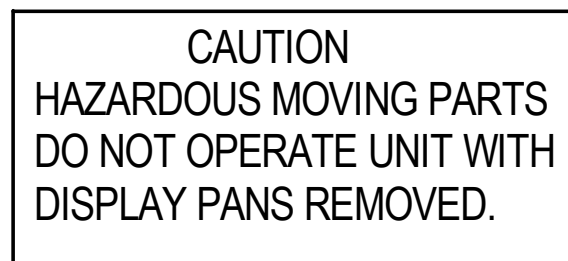
CAUTION: Minor injury or damage to your case can occur if you ignore the message.

NOTICE: This is important installation, operation, or service information. If you ignore the message, you may damage your case.

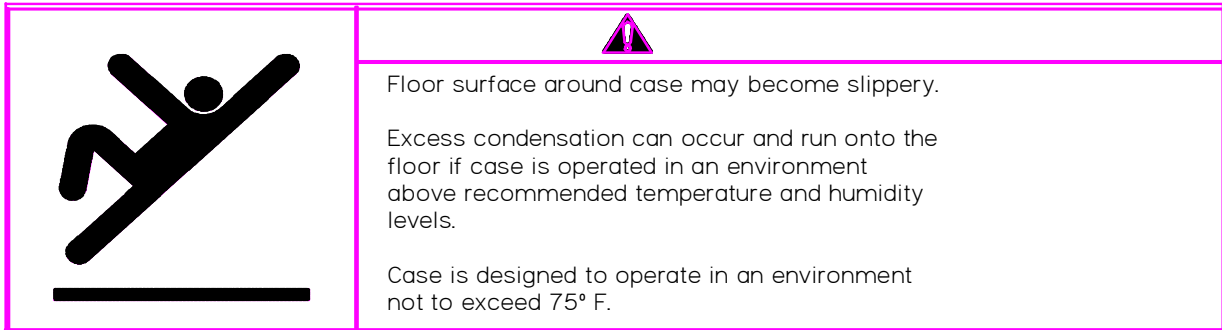
The warning and safety labels shown throughout this manual are placed on your Federal Industries case at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call our customer service department at 1(800) 356-4206 for replacements.



This label is located on the back of the display case.



This label is located below the display pan.



This label is located on the back of the display case.

PRE-INSTALLATION PROCEDURES

Inspection For Shipping Damage

You are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage is noted to shipping crates or cartons, or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is discovered when the case is uncrated, immediately call the delivering truck line and follow-up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Crating material must be retained to show the inspector from the truck line.

INSTALLATION INSTRUCTIONS

Locating The Display Case

The case should be located where it is not subjected to the direct rays of the sun, heating ducts, grills, radiator, or ceiling fans, nor should it be located near open doors or main door entrances. Also, avoid locations where there is excessive air movement or air disturbances.

The condenser air inlet is located at the rear of the case. Do not block this inlet and do not locate the air inlet near a source of heat.

Removing Case from Shipping Skid

CAUTION: Do not push against the curved glass, end glass, doors, or doorframes when removing the case from the skid or moving

Move the case as near as possible to the final location before removing it from the shipping skid.

Remove the eight (8) screws that secure the case to the skid.

Removing Packaging Material

Remove the brackets that held the case to the shipping skid.

Remove the shipping tape that secures the doors and lift-up glass. If it is necessary to remove tape residue from plastic materials, use cleaning compounds recommended in the cleaning section of this manual.

Leveling the Case

The case must be level for proper drainage of defrost condensate to the condensate evaporator.

Four (4) leg levelers are provided for leveling the case. The leg levelers can be turned in, and the case can be placed with the base frame on the floor.

The leveled case can be sealed to the floor using and NSF Listed Sealant.

Grill Removal



DANGER: Electrical shock hazard. Do not operate unit with panels removed.

The front of the case has a removable base panel to access the refrigeration components. Normally, it is not necessary to remove the panel to install the case. This panel must be in place for proper operation of the case.

There is one (1) removable panel on the back of the case. The panel allows access to the condensing unit, and the field wiring connection box. Remove this panel to make field-wiring connections.

Condensate Evaporator

This case is furnished with an electric condensate evaporator. Plumbing connections are not required.

The condensate evaporator is located behind the rear panel and is accessible from the rear of the case.

Make sure that the drain line has not been dislodged during shipment and that the drain terminates properly over the water reservoir.

Lights

The ballasts used on this case allow removal of one or more top lights without affecting the remaining lights.

ELECTRICAL INFORMATION & GROUNDING

This Case Must Be Grounded



DANGER: Improper or faulty hookup of electrical components in the display case can result in severe injury or death.

All case electrical connections must be performed only by a licensed electrician.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national electrical standards.

A separate circuit for each display case is recommended to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.

The electrical service must be grounded upon installation.

This unit is designed for permanent connection to a power source. See the electrical data plate located next to electrical junction box for proper circuit size and wire ampacity.

The electrical field connection 2 x 4 box is accessible from the rear of the case and is located in the right "leg" (as viewed from case rear). A second 2 x 4 field connection box is also located in the right leg and is required to supply electrical power to the general purpose receptacle.

OPERATING INSTRUCTIONS

Initial Start-Up

After all the checks outlined in the installation section of this manual have been made, the case is ready to be put into service.

Doors

Clean the door track frequently for easy door operation. A very light film of lubricant, such as PAM, will help the doors slide easily.

The entire door track assembly may be removed if desired by tilting the top back and lifting the entire frame out.

The display case is intended to be operated with the rear doors in place. However, during peak service periods, the doors may be removed for ease of serving out of case. DO NOT keep doors off unit for long periods of time.

Light Replacement

Remove bulb from top light assembly by rotating bulb 90 degrees and pulling outward. This will allow bulb prongs to easily slide out of bulb receptacles located at each end of the bulb.

The bulbs are furnished with plastic safety light shields. Make certain the light shields are always in place to safeguard against bulb breakage.

When replacing lights, use direct equivalents to the original bulbs.

Placing Product into Case

Do not block the slots along the front or rear of the case display floor.

CASE SHOULD BE STOCKED WITH PRE-CHILLED PRODUCT ONLY.

The display pans are removable for cleaning and can become dislodged in shipment. To ensure proper airflow and performance of the case, make sure that the display pans are positioned as shown. Check that the pans are installed properly before placing product on the display pans.

COMPUTER CONTROLS
for
SQCD CASES

E3014

A. Display

Display temperature readout and displays the time.

B. Down Arrow

Press once to display current heat setting, press again to change to a warmer setting.

C. Up Arrow

Press once to display current refrigeration setting. Press again to change to a cooler setting.

Temperature Setting

The display has an off position, "0", and numbered position 1 through 9. The coolest setting is 9. Be using the up and down arrows, set the display at the lowest number necessary to achieve desired case temperature.

D. Clock Display/Set

Press to display current time. Adjust time with bottoms B (Hours) & C (Minutes). Press again to return the temperature display.

E. Defrost Start Display/Set

Press to display current defrost start time – adjust same as clock.

F. Defrost Stop Display/Set

Press to display current auto stop time – adjust same as clock. If start and stop time are the same, auto start/stop is off.

G. Light Switch

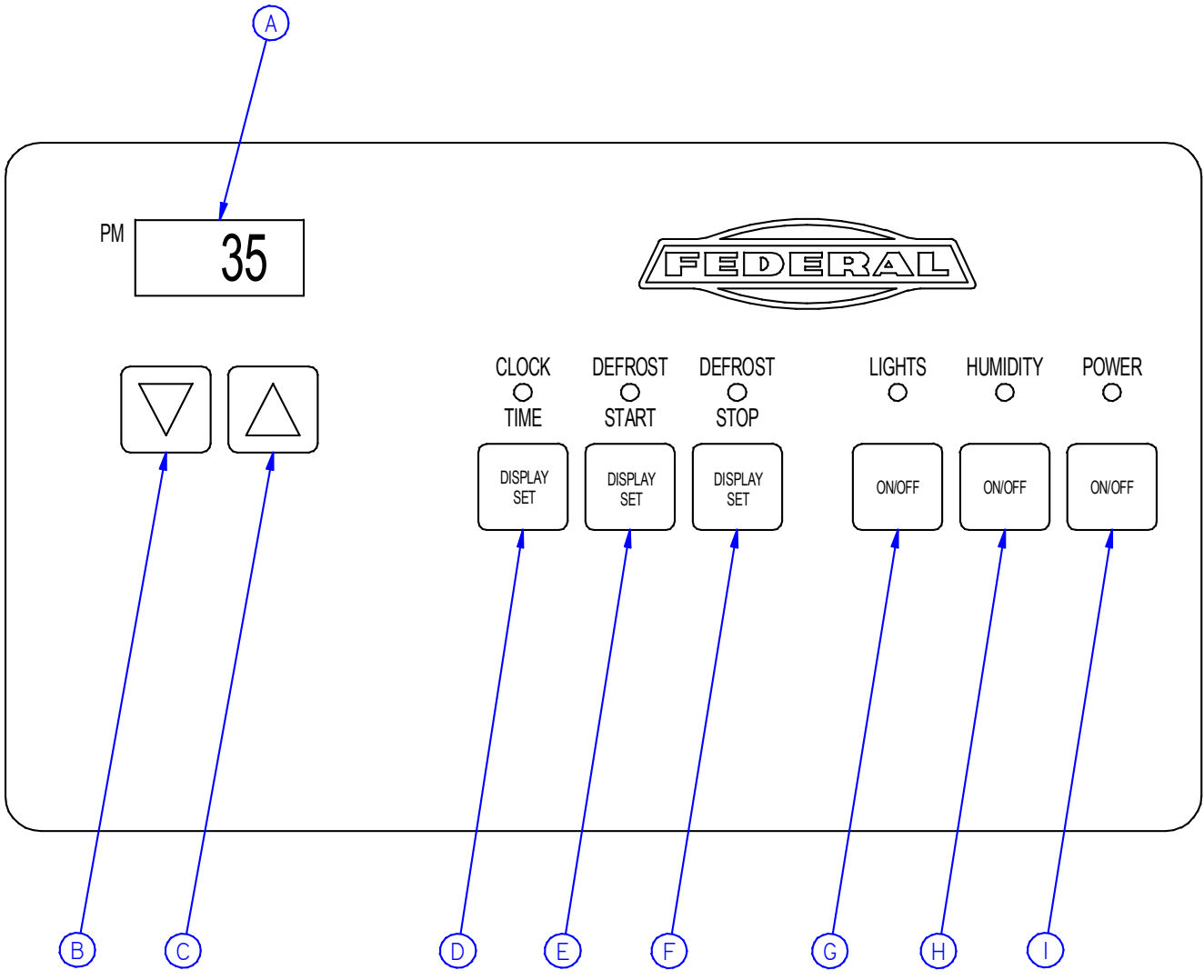
Turns fluorescent lights on and off. Red light indicates on.

H. Humidity Switch

Turns the optional humidification system on and off. Red light indicates switch is on.

I. Main Power Switch

Turns off power to all components – retains all settings. This **does not** turn off complete power to the unit.



Hinged Front Glass

The front glass hinges up for easy cleaning of the case interior. Pneumatic cylinders assist in lifting the glass. The glass will hold open in any position.

The hinged glass mechanism will give years of reliable operation in normal usage. Service on the lift mechanism is required if . . .

- The glass becomes difficult to open.
- The glass does not hold in the open position.
- The glass closes fast.

Consult the factory if service is required.

NOTE: Condensation will occur on the front and side glass if the room environment exceeds 75° ambient and/or 55% relative humidity conditions.

<p>CAUTION: Operation of lift-up glass is to be done by trained store personnel only. This case is not intended to be used as a self-serve unit. Do not allow customers to operate lift-up glass.</p>
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Periodic Maintenance

Cleaning Condenser Coil

Disconnect power to unit.

Remove the rear grill and vacuum the front surface of the condenser coil. This should be done every one to two months as necessary.

CLEANING INSTRUCTIONS

Daily Cleaning

This case should be cleaned thoroughly, as described in the weekly cleaning section, before it is used for the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut off lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

NOTE: For major spills or foreign material buildup use complete weekly cleaning instructions.

1. Clean all foreign materials from the door opening.
2. Wipe complete interior of case using a damp cloth.
3. The glass can be cleaned with common window cleaners. The remaining exterior surface should be wiped down using any ammoniated cleaners or soapy warm water.

Note: Detergents are **not** recommended.

Weekly Cleaning

This procedure is recommended on a weekly basis. It may need to be performed more often if necessary to maintain a clean, sanitary case. The case should be cleaned to this procedure before using the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut off lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Interior Cleaning

1. Remove rear doors by tilting top of frame back and lifting entire assembly out.
2. Lift up the front glass to the fully open position.
3. Lift the display pans up and take them out of the case.
4. Remove thumbscrews that hold the rear vent to the back of the case.
5. Take out front condensation glass by lifting it up and out.
6. Remove front vent by lifting straight up and out.
7. Clean the entire interior of the case using warm soaping water. Wipe off all soapy water with a damp cloth and allow to dry.

Note: Depending on the amount of usage and spillage of foreign material, some fasteners may have to be removed and parts disassembled to allow proper cleaning of the unit.

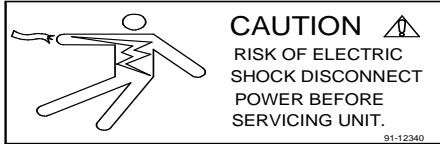
8. Clean all foreign material from door tracks using warm soapy water and a brush. Apply a light film of lubricant, such as PAM, to make the doors operate smoother.
9. Clean both sides of the doors and interior of the front glass using any common window cleaner.
10. Reassemble the case in reverse order starting with Step 6.

Exterior Cleaning

1. Clean the front glass using any common window cleaner.
2. The exterior surfaces should be wiped down using any ammoniated cleansers or warm soapy water.

SERVICE INFORMATION

Before any service work is performed on the case, make sure all power is disconnected to the case.



Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

Warranty/Technical Service Department
Toll Free: (800) 356-4206
WI Phone (608) 424-3331
geninfo@federalind.com



Pre-Service Checklist

You may avoid the cost and inconvenience of an unnecessary service call by first reviewing this checklist of frequently encountered situations that can cause unsatisfactory case performance.



CAUTION: Before servicing case, turn off power at the main breaker of fuse box.

Cases Does Not Operate

Check for disconnected power supply.

Check for tripped breaker or blown fuse.

Check that the power switch and thermostat displays are not “off”.

Lights Do Not Operate

Check that light switch is “on”.

Be sure light is properly seated in the sockets.

Case Temperature Too Warm

Check that the cold air inlet and outlet slots are not blocked.

Be sure front glass is closed tightly and back doors are closed.

Check for a blocked or dirty condenser coil.

Check cold airflow. Lack of adequate cold airflow could indicate a defective evaporative fan or a blocked evaporator coil. Check that paper or foreign materials are not blocking evaporator. If the evaporator coil is blocked due to excessive frost, turn the temperature setting to “0” (“off”) position for approximately one hour to defrost. Excessive frost can buildup if the case is operated with the doors open for extended periods of time.

Glass Fogging

Checkroom ambient – Case is designed to operate in an environment not to exceed 75°F and 55% relative humidity.

Check case temperature – Case is designed to operate between 36°F and 42°F.

Check that the airflow is not being disturbed by a nearby fan or air duct.

Check that nothing is placed on the top of the case glass.

Overflow of Condensate Evaporator

A high wattage heater is used to eliminate the evaporator condensate.

The heater shuts off automatically when the water level in the pan drops.

If the pan is overflowing . . .

Check that float moves freely inside water reservoir and activates float switch.

Check that drain line terminates properly over water reservoir.

Check room ambient conditions. Room environment should not exceed 75°F ambient and 55% humidity conditions.

Special Service Situations

There are rare occasions when the refrigerant charge must be evacuated from a case in order to perform service work. In those situations, Federal Industries recommends that the refrigerant charge be evacuated into a recovery system to prevent the possibility of hydro-fluorocarbons (HFC's) from being released into the atmosphere.

If moisture or liquid is observed around or under a Federal Industries case, an immediate investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation made should determine if the case is malfunctioning or if there is a simple housekeeping problem.

Moisture or liquid around or under a case is a potential slip/fall hazard for persons walking by or working in the general area of the case. Any case malfunction or housekeeping problem that creates a slip/fall hazard around or under a case should be corrected immediately.

SALE & DISPOSAL

Owner Responsibility

If you sell or give away your Federal Industries case, you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the Customer Service Department at Federal Industries at (800) 356-4206.

The Customer Service Department at Federal Industries should be contacted at the time of sale or disposal of your case so records may be kept of its new location.

If you sell or give away your Federal Industries case, and you evacuate the refrigerant charge before shipment, Federal Industries recommends that the charge be evacuated into a recovery system to prevent the possibility of HFC's from being released into the atmosphere.

REFRIGERATION & ELECTRICAL DATA

	SQ3CD	SQ4CD	SQ5CD	SQ6CD	SQ8CD
Refrigerant Charge (R-134A)	24 oz.	28 oz.	30 oz.	32 oz.	36 oz.

ALL MODELS ARE 120 VOLT, 1 PHASE, 60 HERTZ

	AMPS	AMPS	AMPS	AMPS	AMPS
Compressor					
RLA	7.6	9.5	9.5	9.5	10.7
LRA	48.0	58.8	58.8	58.8	69.0
Condenser Fan Motor	0.5	0.5	0.5	0.5	1.3
Evaporator Fan	0.4 ea.(1)	0.4 ea.(1)	0.4 ea.(1)	0.4 ea.(2)	0.4 ea.(2)
Lights	0.3	0.7	0.7	0.7	0.8
Condensate Evaporator	4.8	4.8	4.8	4.8	4.8

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

Each model is equipped with a general-purpose receptacle, which requires a separate electrical circuit of 120V, 15 Amps. This receptacle must be wired in accordance with the National Electrical Code.

REFRIGERATION & ELECTRICAL DATA

Refrigerant	SQ3CD R134A	SQ4CD R134A	SQ5CD R134A	SQ6CD R134A	SQ8CD R134A
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ALL MODELS ARE 120 VOLT, 1 PHASE, 60 HERTZ

	AMPS	AMPS	AMPS	AMPS	AMPS
Evaporator Fan	0.4 ea.(1)	0.4 ea.(1)		0.4 ea.(2)	0.4 ea.(2)
Lights	0.3	0.7	0.7	0.7	0.8
Condensate Evaporator	4.8	4.8	4.8	4.8	4.8

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

Each model is equipped with a general-purpose receptacle, which requires a separate electrical circuit of 120V, 15 Amps. This receptacle must be wired in accordance with the National Electrical Code.

REPLACEMENT PARTS

**MODELS : SQ3CD, SQ4CD, SQ5CD,
SQ6CD & SQ8CD (SELF-ONTAINED)**

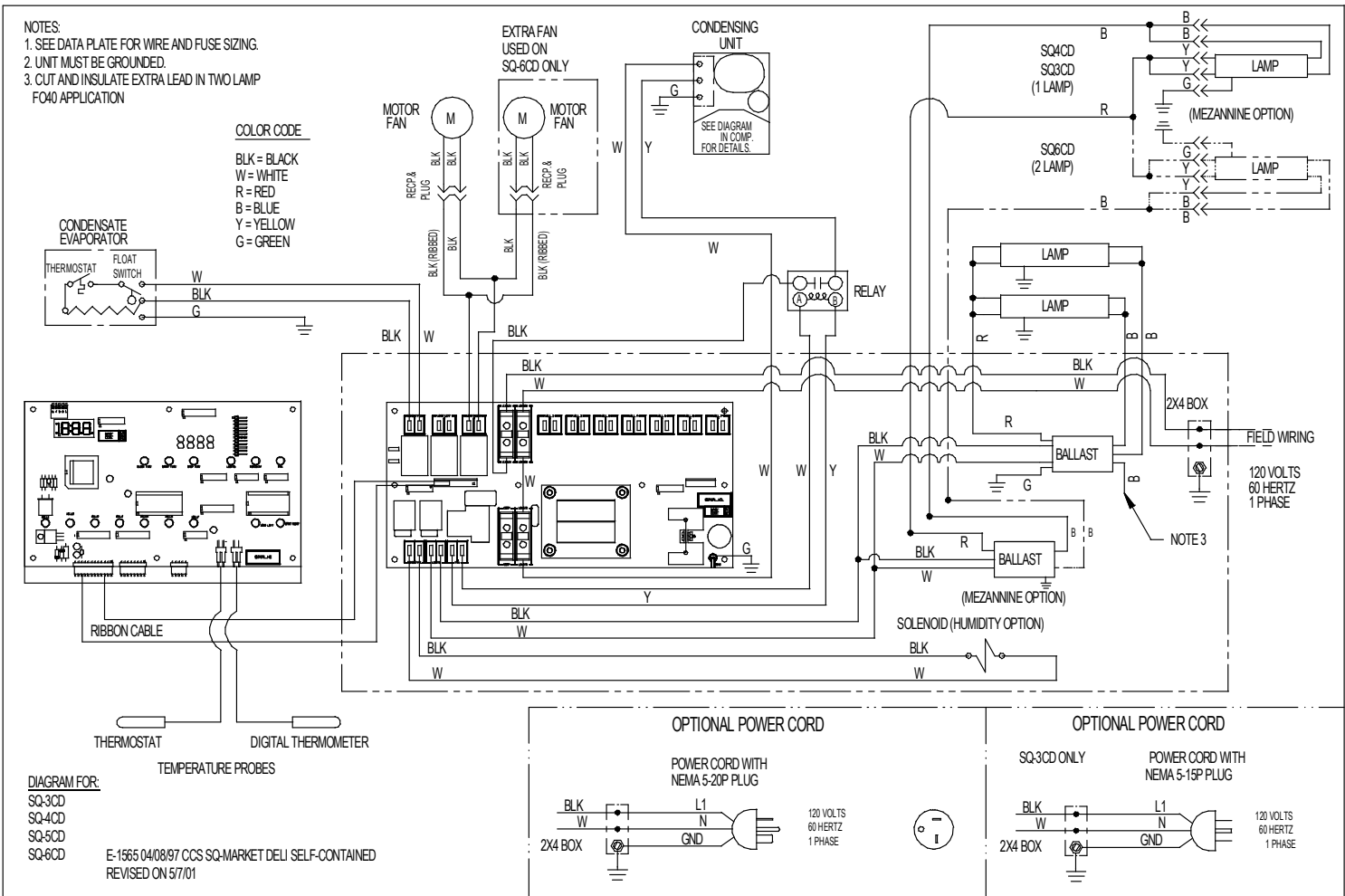
Part Description	Part Number				
	<u>SQ3CD</u>	<u>SQ4CD</u>	<u>SQ5CD</u>	<u>SQ6CD</u>	<u>SQ8CD</u>
<u>Refrigerated System</u>					
Condensing Unit	30-13455	30-12961	30-12961	30-12961	30-12962
Compressor	30-15035	30-15036	30-12961	30-15036	30-15037
Evaporator Coil	33-13267	33-13268	30-13268	33-13269	33-13270
Expansion Valve	32-12625	32-12625	32-12625	32-12625	32-12625
Evaporator Fan Motor	41-11628	41-11628	41-11628	41-11628	41-11628
Evaporator Fan Blade	72-11450	72-12254	72-11450	72-11450	72-11450
Filter Drier	32-12626	32-12391	32-12626	32-12391	32-12391
Condensate Evaporator	SA-2094	SA-2094	SA-2094	SA-2094	SA-2094
<u>Electrical Components</u>					
Ballast	39-12902	39-12902	39-12902	39-12903	39-12903
Light Bulb	42-11069	42-11070	42-15440	42-11071	42-11070
Ribbon Cable (8 Pin)	41-13767	41-13767	41-13767	41-13767	41-13767
Ribbon Cable (12 Pin)	41-13766	41-13766	41-13766	41-13766	41-13766
Temperature Probe	41-13755	41-13755	41-13755	41-13755	41-13755
Logic Board	41-13744	41-13744	41-13744	41-13744	41-13744
Relay Board	41-13745	41-13745	41-13745	41-13745	41-13745
<u>Misc. Components</u>					
Front Curved Glass	50-13028	50-13029	50-15753	50-12830	50-13831
Side Glass	51-13124	51-13124	51-13124	51-13124	51-13124
Condensation Glass	51-13161	51-13162	51-15761	51-13764	51-13765
Gas Cylinder	81-14319	81-13660	81-13661	81-13660	81-13660
Decal – Elect Hazard	91-10743	91-10743	91-10743	91-10743	91-10743
Federal Logo Sticker	91-72523	91-72523	91-72523	91-72523	91-72523
Mirrored Side Glass(Left)	55-13249	55-13249	55-13249	55-13249	55-13249
Mirrored Side Glass (Right)	55-13248	55-13248	55-13248	55-13248	55-13248
Rear Door Glass	15-14148	15-14149	15-15762	15-14150	15-14151

REPLACEMENT PARTS

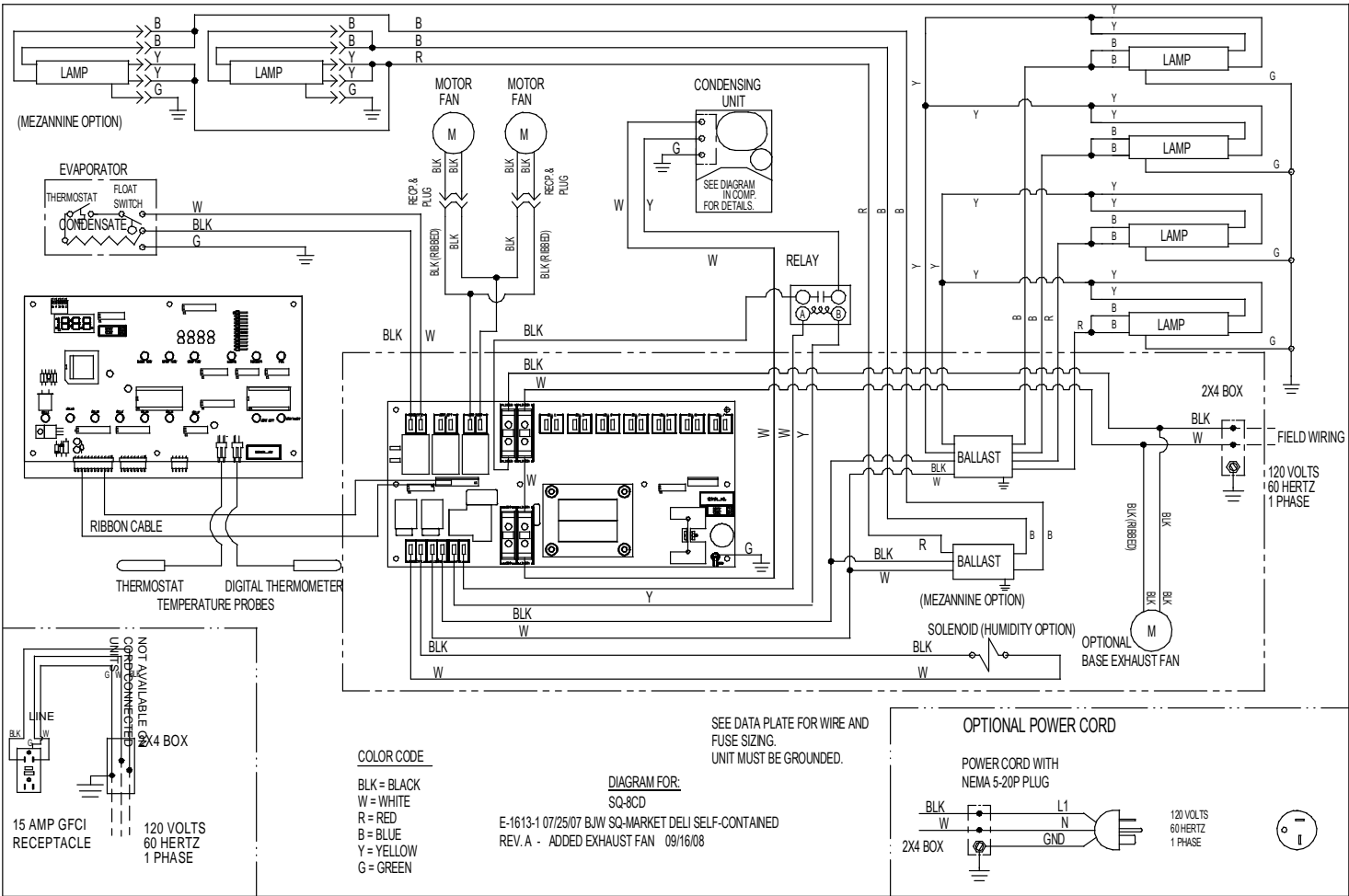
**MODELS : SQ3CD, SQ4CD, SQ5CD,
SQ6CD & SQ8CD (REMOTE)**

Part Description	Part Number				
	<u>SQ3CD</u>	<u>SQ4CD</u>	<u>SQ5CD</u>	<u>SQ6CD</u>	<u>SQ8CD</u>
<u>Refrigerated System</u>					
Evaporator Coil	33-13267	33-13268	33-13268	33-13269	33-13270
Expansion Valve	32-12625	32-12625	32-12625	32-12625	32-12625
Evaporator Fan Motor	41-11628	41-11628	41-11628	41-11628	41-11628
Evaporator Fan Blade	72-11450	72-12254	72-11450	72-11450	72-11450
Condensate Evaporator	SA-2094	SA-2094	SA-2094	SA-2094	SA-2094
<u>Electrical Components</u>					
Ballast	39-12902	39-12902	39-12902	39-12903	39-12903
Light Bulb	42-11069	42-11070	42-15440	42-11071	42-11070
Light Socket	42-12776	42-12776	42-12776	42-12776	42-12776
Ribbon Cable (8 Pin)	41-13767	41-13767	41-13767	41-13767	41-13767
Ribbon Cable (12 Pin)	41-13766	41-13766	41-13766	41-13766	41-13766
Temperature Probe	41-13755	41-13755	41-13755	41-13755	41-13755
Logic Board	41-13744	41-13744	41-13744	41-13744	41-13744
Relay Board	41-13745	41-13745	41-13745	41-13745	41-13745
<u>Misc. Components</u>					
Front Curved Glass	50-13028	50-13029	50-15753	50-12830	50-13831
Side Glass	51-13124	51-13124	51-13124	51-13124	51-13124
Condensation Glass	51-13161	51-13162	51-15761	51-13764	51-13765
Gas Cylinder	81-13660	81-13661	81-13661	81-13661	81-13661
Decal – Elec. Hazard	91-10743	91-10743	91-10743	91-10743	91-10743
Federal Logo Sticker	91-72523	91-72523	91-72523	91-72523	91-72523
Mirrored Side Glass(Left)	55-13249	55-13249	55-13249	55-13249	55-13249
Mirrored Side Glass (Right)	55-13248	55-13248	55-13248	55-13248	55-13248
Rear Door Glass	15-14148	15-14149	15-15762	15-14150	15-14151

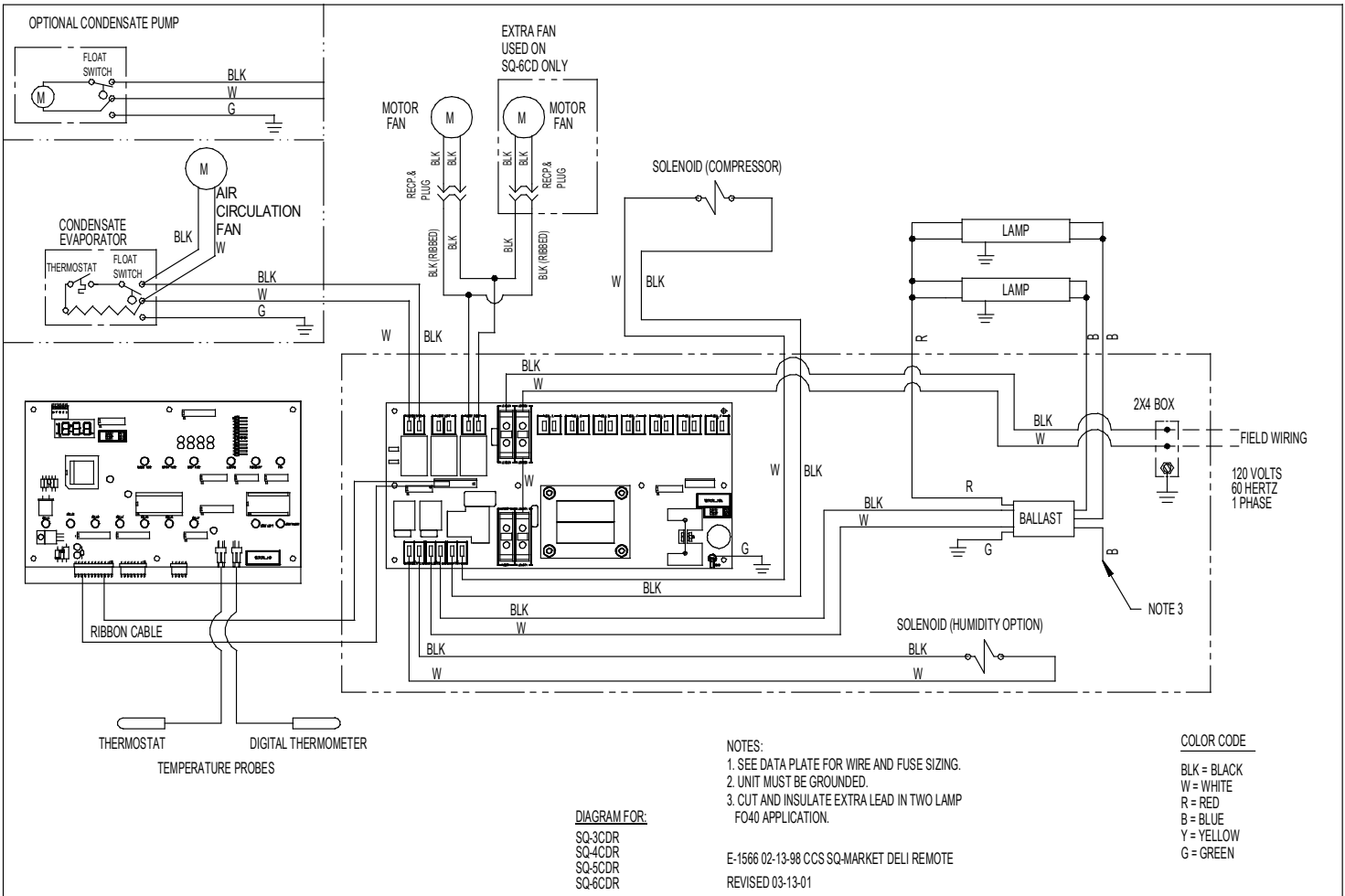
WIRING DIAGRAM -SQ3CD, SQ4CD, SQ5CD, SQ6CD (SELF-CONTAINED)



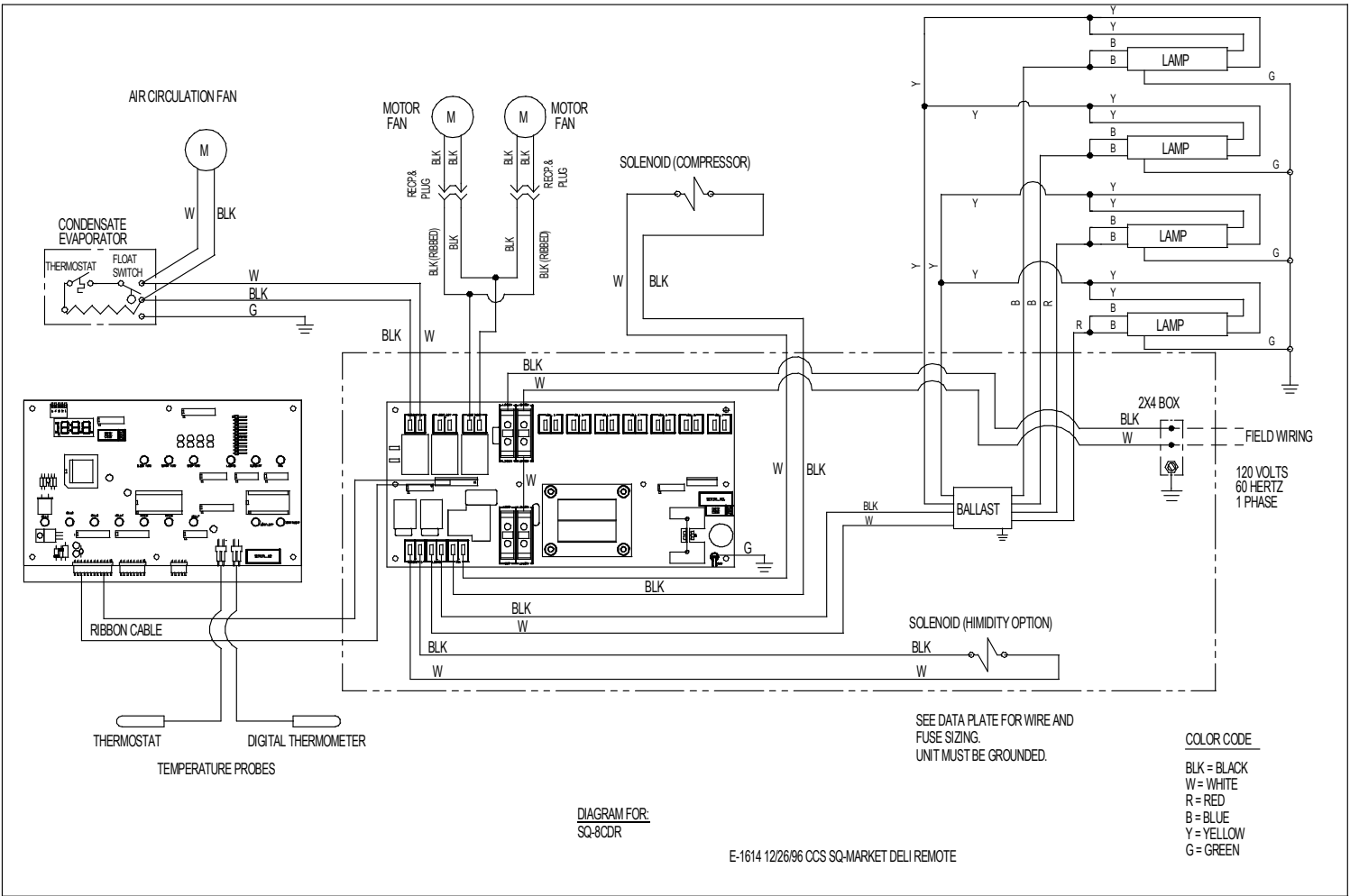
WIRING DIAGRAM - SQ8CD (SELF-CONTAINED)



WIRING DIAGRAM - SQ3CD-R, SQ4CD-R, SQ5CD-R, SQ6CD-R (REMOTE)



WIRING DIAGRAM - SQ8CD-R (REMOTE)



WIRING DIAGRAM - RECEPTACLE

