

HUSSMANN®



P/N 3048464_B

June 2018



RTN400

CONTROLLER
RETROFIT

REPLACEMENT FOR
SAFENET III CONTROLLERS

DDSS4MC

⚠ WARNING

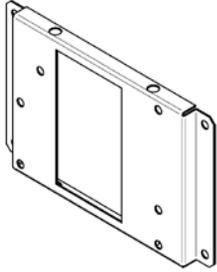
— LOCK OUT / TAG OUT —

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

INSTRUCTION-RETROFIT RTN DDSS

RETROFIT PARTS CONTROL RTN400

CONTROL ASSY-RTN DDSS RTN P/N 3048463



3025276-SUPPORT CONTROLLER



3023553-CABLE CONTROLLER



3060963-PRE-PRGM-CONT RTN DDSS4MC



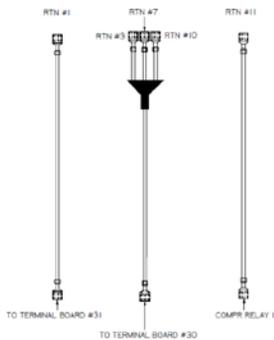
3023552-CONTROL DISPLAY KDE



3023554-SENSOR NTC GREEN

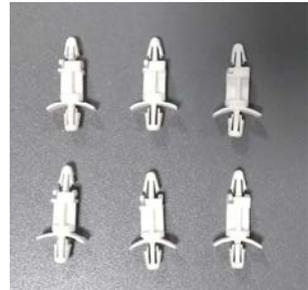


3031571-SENSOR NTC ORANGE



3043415-HARNESS ELEC BOX CONTROLLER

3047472-LABEL-PRMTR DDSS4MC



3025272-PLASTIC SPACER



1900677-HEX HEAD 5/16" SCREW

INSTALLATION TOOL LIST

- Phillips-head screw driver
- Hex-head 5/16" screw driver
- Wire cutters
- Silicone sealant
- Cable ties

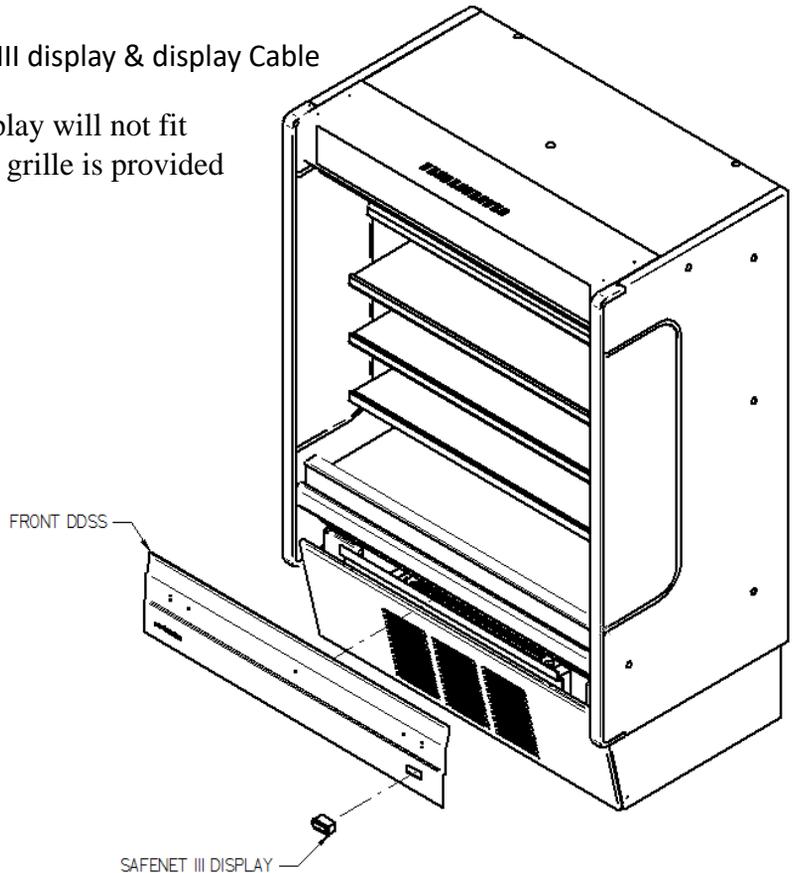
REPLACING CONTROLLER

The RTN400 is pre-programmed for this application. However, we recommend verifying the program by confirming the correct setpoint. The setpoint verification procedure is on pages 8 & 9.

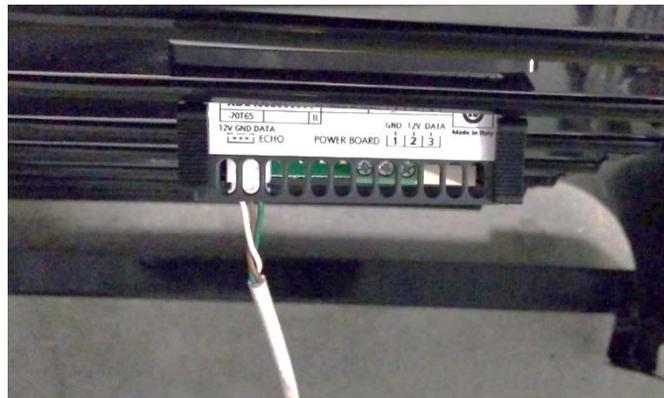
1. Disconnect all power from the case !!!

2 . Remove Front DDSS, Safe-Net III display & display Cable

Note: The RTN400 controller display will not fit in the existing grille. A new grille is provided with the retrofit kit.



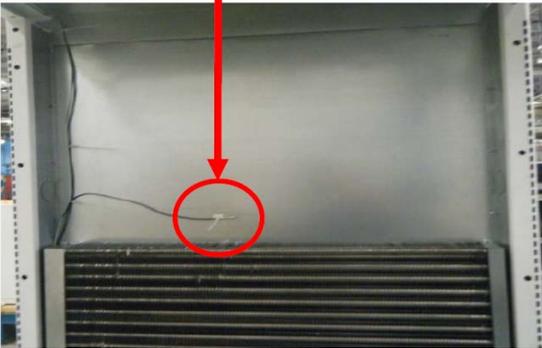
3. Insert the controller display into the front. Connect cable controller to control display.



3. Replace sensors.

3.1. Replace Black Safe-Net air sensor with green RTN sensor.

Air Sensor



3.2 Replace yellow Safe-Net defrost termination sensor with orange RTN sensor.

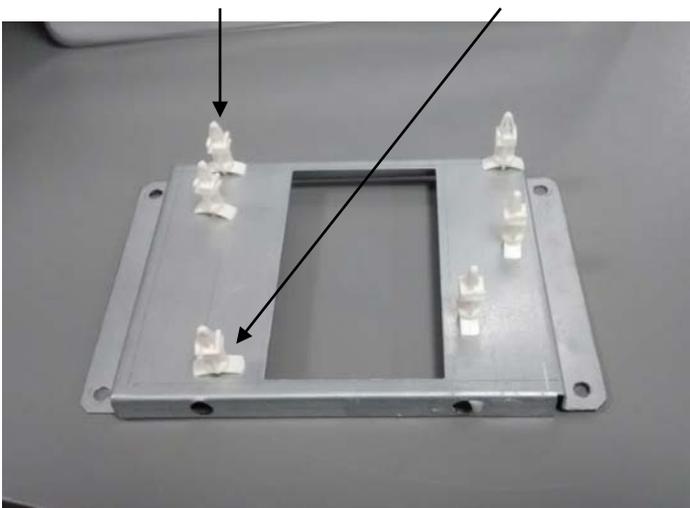


Defrost Sensor

Note: The existing sensors are NOT compatible with the RTN400 and must be replaced with the sensors provided in the retrofit kit.

DO NOT SPLICE SENSOR WIRES !!

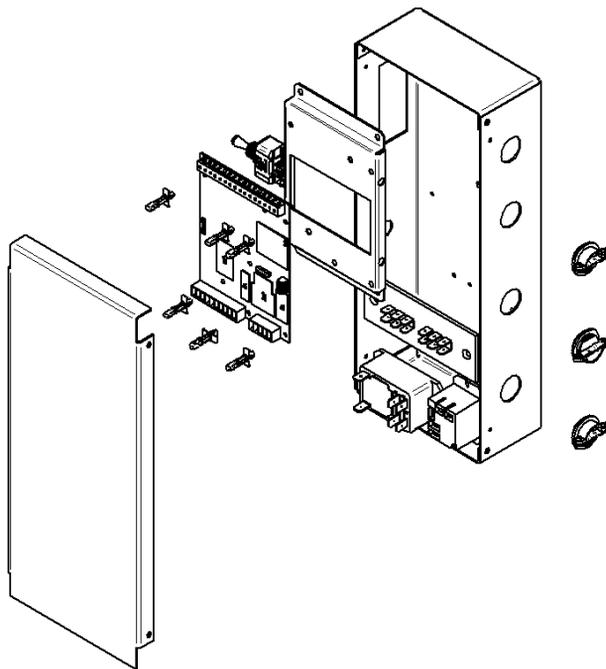
4. Install Plastic Spacers (6pcs.) onto Support Controller.



5. Secure Control RTN400 to Plastic Spacers



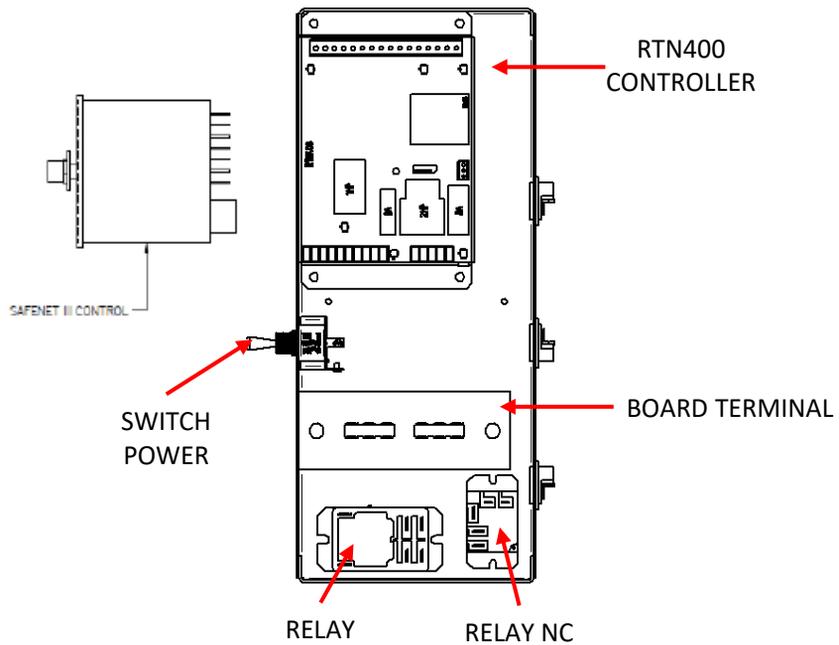
6. Use the Hex Head 5/16" screw to secure the assembly inside the control box.



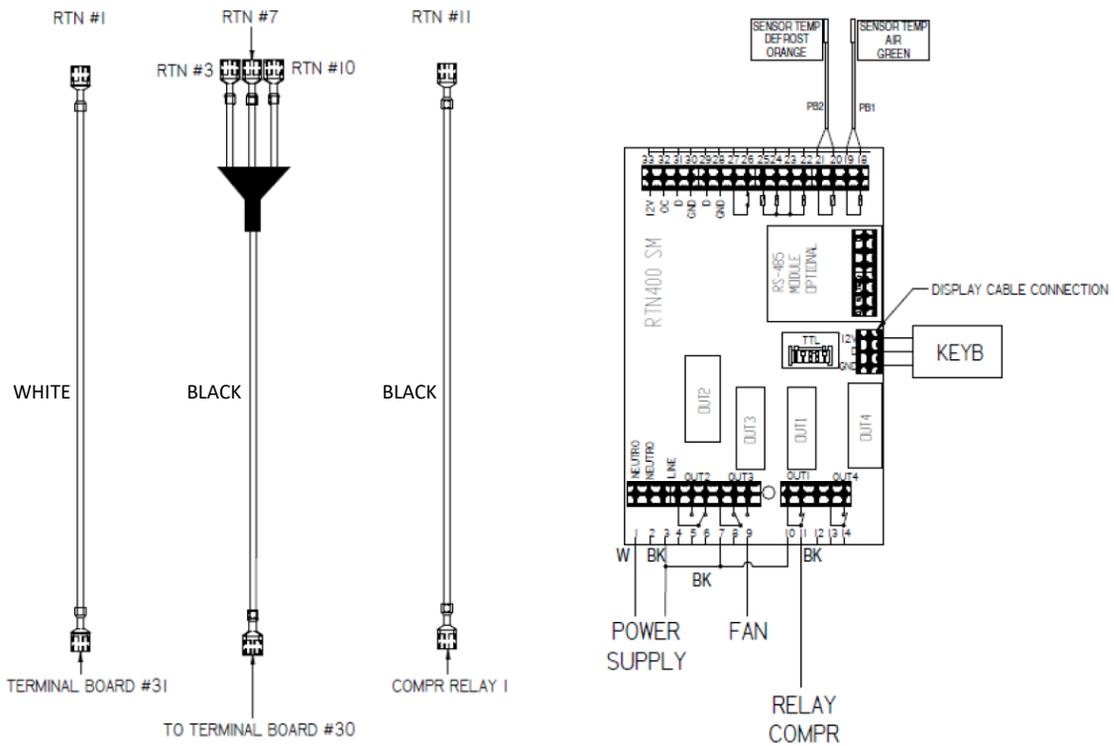
***Optional Procedure:** Instead of mounting the completed assembly, consider mounting the base (with spacers only) first. The board can then be snapped onto the spacers. This will prevent any damage to the board caused by being hit with a drill during the mounting procedure.

7. Remove Safe-Net III controller and harness wiring from control box

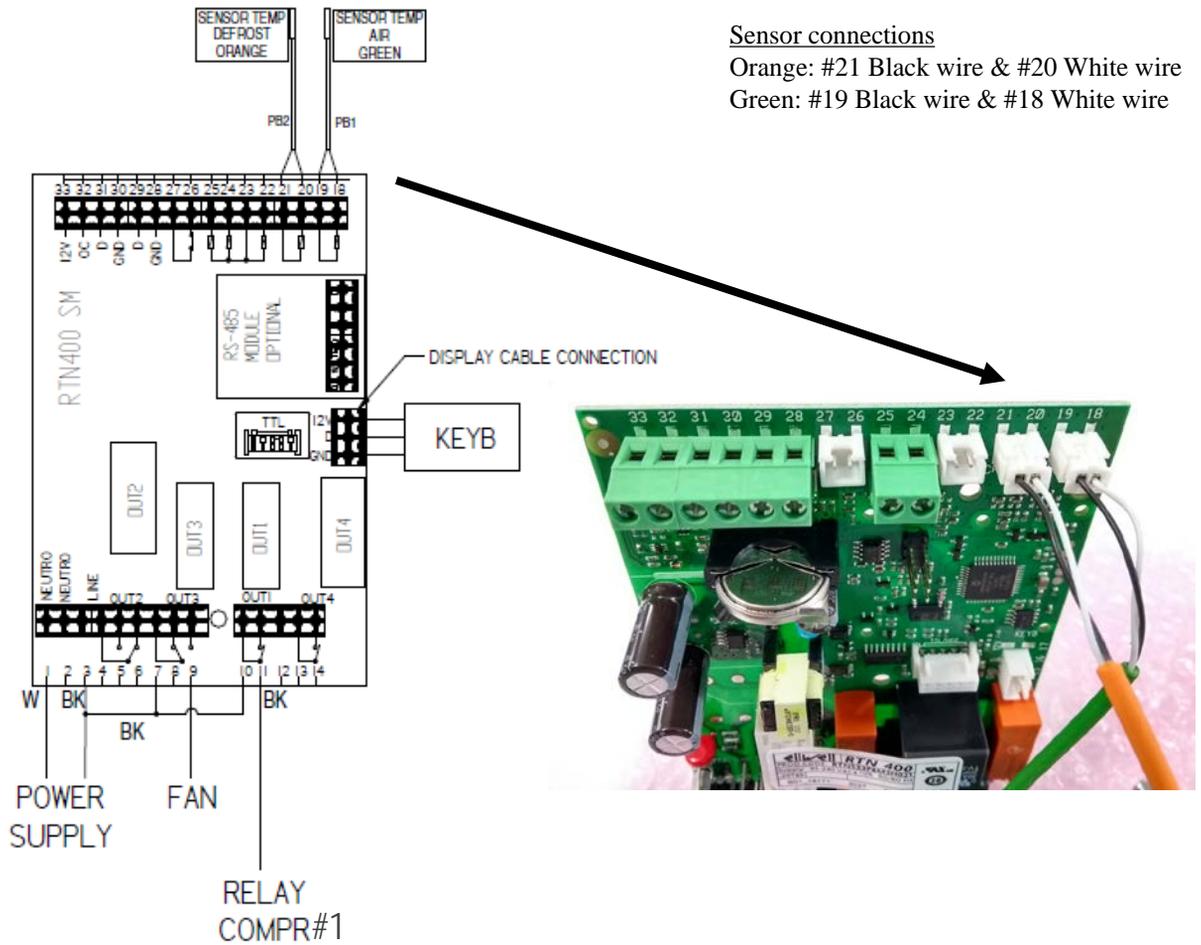
Note: Make sure to remove the controller's harness wires from the terminal board.



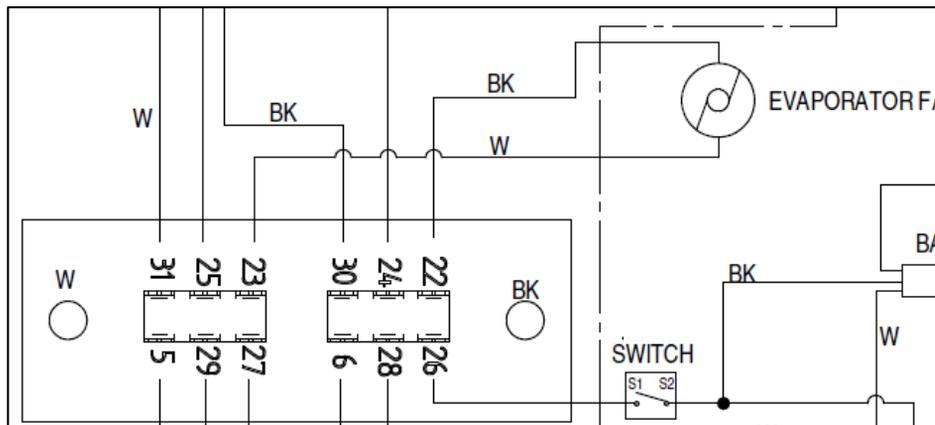
8. Install wires to controller and terminal board as shown below:



9. Connect sensor wires to controller as shown below. Connect Cable Controller to controller RTN400.

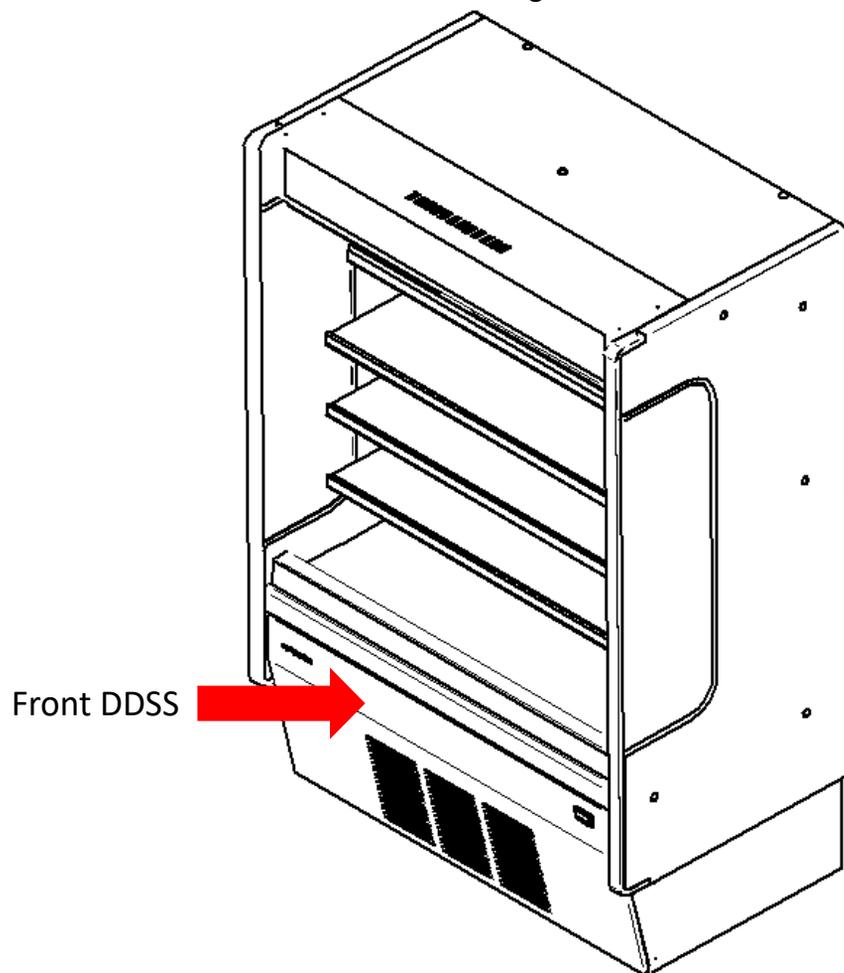


10. Verify black wire to terminal board #22 is connected to evaporator fan motor.
 11. Disconnect this wire from terminal board #22 and connect again to RTN400 controller #9.



***Previous connection with Safe-Net control**

12. Close control box and reinstall the front grille.



The new controller is preprogrammed and should not require adjustments. You are now ready to start the unit and verify the set-points.

- Apply power to the unit (Fans should start immediately and compressor should start in a few seconds).
- Confirm the setpoint by following “Step 1”. For DDSS4MC, the preprogrammed setpoint is 27°F.
- Go to “Step 2” and verify the sensor probes are reading correctly.
- Proceed to page 9 to complete the start-up process.

1) SETPOINT: SETTING AND EDIT LOCK

To display the Setpoint value, press the **set** key to enter the “Machine Status” menu, then press the **set** key again when the “SET” label is displayed.

The Setpoint value appears on the display. To change the Setpoint value, press the **UP** and **DOWN** keys within 15 seconds. Press **set** to confirm the modification.



2) DISPLAY PROBES VALUE

To display the value read by probes connected to the device, press the **set** key and enter the “Machine Status” menu, then press the key again when one of the probe-related labels “Pb1...Pb5” press the **set** key again. The value measured by the associated probe will appear on the display.

NOTE: The displayed value is read-only and cannot be modified.

KDEPLUS BUTTONS

The KDEPlus keyboard has 4 keys, as shown in the illustration:



To see parameters info please refer to document:

3047472-LABEL-PRMTR DDSS4MC

KDEPLUS BUTTONS

The **KDEPlus** keyboard has 4 keys, as shown in the illustration:



Each key has a different function depending on whether it is:

- Pressed and released
- Pressed for at least 5 seconds
- Pressed and held at start-up
- Pressed in combination with another key.

KEYS

The following table summarizes the function of each key:

No	Key	Action		
		Pressed and released	Press for at least 5 secs	Start-up
1		<ul style="list-style-type: none"> • Scrolls through menu items • Decreases values 	Activates the Manual Defrost function (from outside menus).	---
2		<ul style="list-style-type: none"> • Scrolls through menu items • Decreases values 	Function can be configured by the user (from outside menus). (see parameter H32)	---
3		<ul style="list-style-type: none"> • Returns to the previous menu level • Confirms parameter value 	Activates the Stand-by function (from outside menus).	---
4		<ul style="list-style-type: none"> • Displays any alarms (if active) • Opens Machine Status menu • Confirms commands 	Opens the Programming Menu (User and Installer parameters)	When pressed during start-up it enables the user to select the application to be loaded.

RTN-400 LED Indicator Lights



Meaning of LEDs:

No	Icon	LED	Operation	Meaning
1		Compressor	Permanently on	compressor on
			Blinking	Delay, protection or start-up blocked
			OFF	otherwise
2		Defrost	Permanently on	Defrost active
			Blinking	Activated manually or from Digital Input
			OFF	otherwise
3		Fans	Permanently on	Fans active
			OFF	otherwise
4		Reduced SET / Economy	Permanently on	Energy Saving active
			Blinking	Reduced setpoint active
			OFF	otherwise
5		Alarm	Permanently on	alarm active
			Blinking	Alarm acknowledged
			OFF	otherwise
6	°F	°F readout	Permanently on	°F setting (dro = 1)
			OFF	otherwise
7	AUX	AUX	Permanently on	Aux output active and/or light on
			Blinking	Deep cooling on
			OFF	otherwise
8	°C	°C readout	Permanently on	°C setting (dro = 0)
			OFF	otherwise

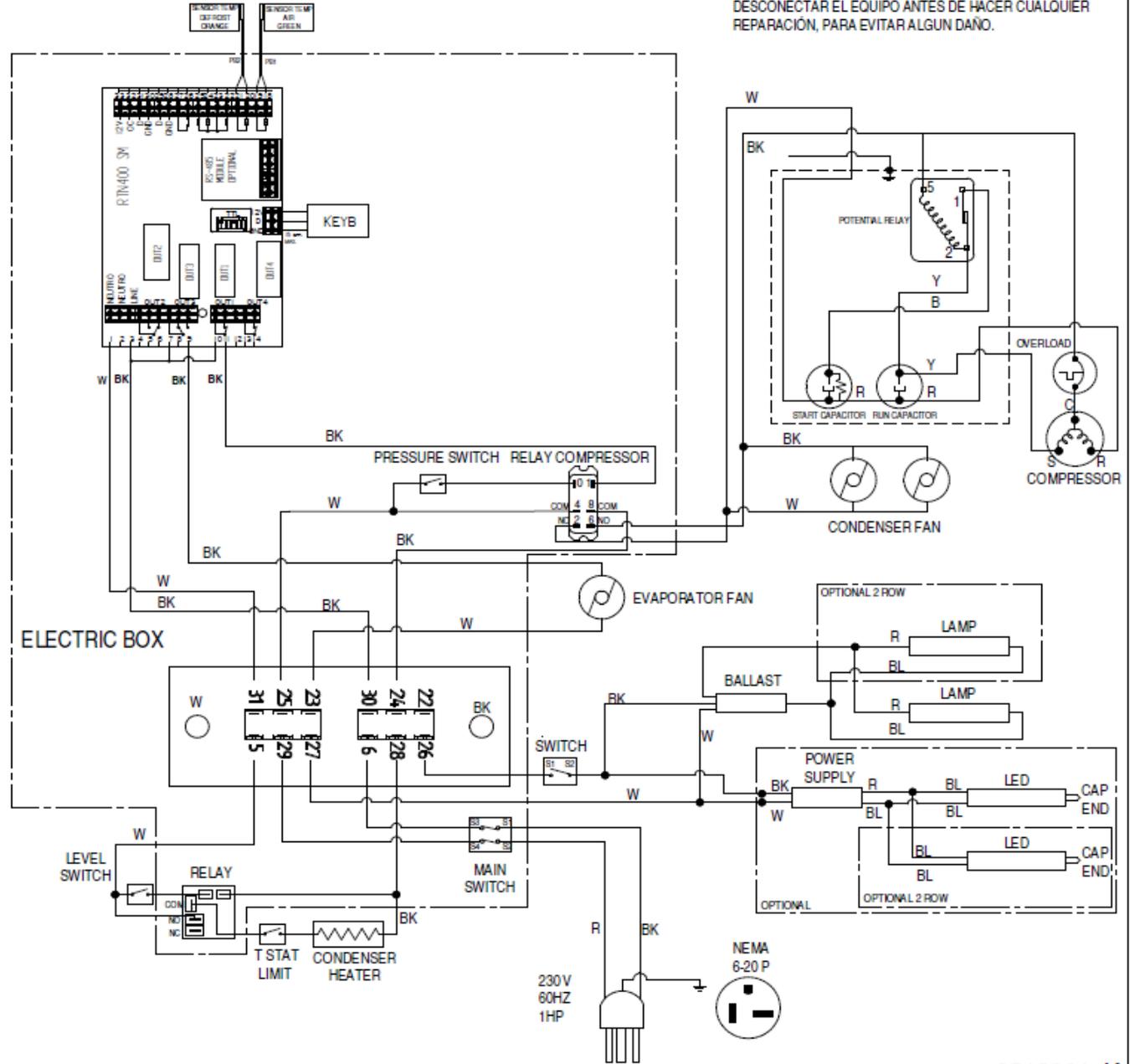
N.B.: When the instrument is powered on it performs a lamp test, during which time the display and LEDs will flash for several seconds to check that they all function correctly.

Wiring Diagram DDSS4MC

ELECTRIC SPECS
 MODEL DDSS4MC
 VOLTAGE 208-230 V
 FREQUENCY 60 HZ
 COMPRESSOR RST55C1E-CAV COPELAND

WARNING
 UNPLUG THE EQUIPMENT BEFORE TO MAKE ANY REPARATION TO AVOID ANY DAMAGE

ADVERTENCIA:
 DESCONECTAR EL EQUIPO ANTES DE HACER CUALQUIER REPARACIÓN, PARA EVITAR ALGUN DAÑO.



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