

HUSSMANN®



N/P 3060649_A

June 2018

RTN400

CONTROLLER
RETROFIT

REPLACEMENT FOR SAFENET III
CONTROLLERS

ISF5/10

*DUAL TEMP



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.

PARTS REQUIRED FOR RETROFIT



3023552-Control Display KDE



3023553-Cable Controller



3061379-PRE-PRGM-CONT ISF DUAL T

Part No.	Description	QTY	Unit	Part No.	Description	QTY	Unit
3023552	Control Display KDE	1	EA	3023553	Cable Controller	1	EA
3061379	PRE-PRGM-CONT ISF DUAL T	1	EA	3023554	Sensor NTC Green	1	EA
3031571	Sensor NTC Orange	1	EA	3041994	HARNESS-RTN400 ISF	1	EA
3025272	Plastic Spacer	6	EA	1900677	Hex Head 5/16" Screw	4	EA
0510526	SUPPORT-DISPLAY	1	EA				

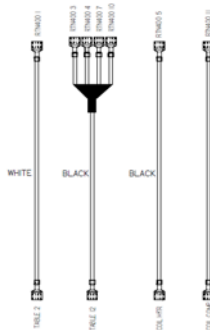
3051437-LABEL-PRMTR ISF DUAL TEMP



3023554-Sensor NTC Green



3031571-Sensor NTC Orange



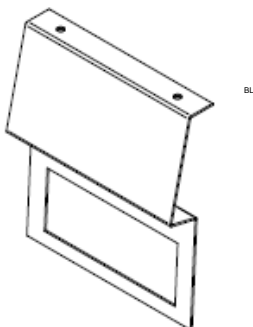
3041994-HARNESS-RTN400 ISF



3025272-Plastic Spacer



1900677-Hex Head 5/16" Screw



0510526-SUPPORT-DISPLAY

INSTALLATION TOOL LIST

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

INSTALLATION TOOL LIST

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

The RTN400 is pre-programmed for this application. However, we recommend verifying the program by confirming the correct set-point. The setpoint verification procedure is on pages 7 & 8.

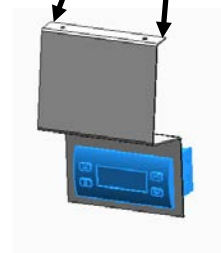
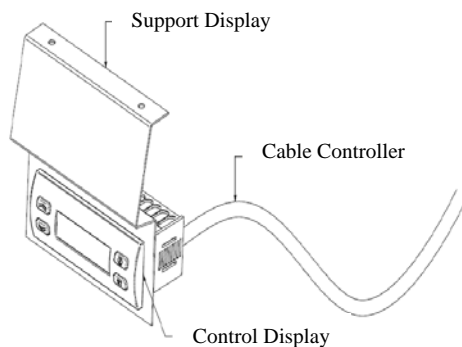
1. Disconnect all power to the case !!!

2. Remove front grille.

3. Remove front bracket and Safe-Net III display.

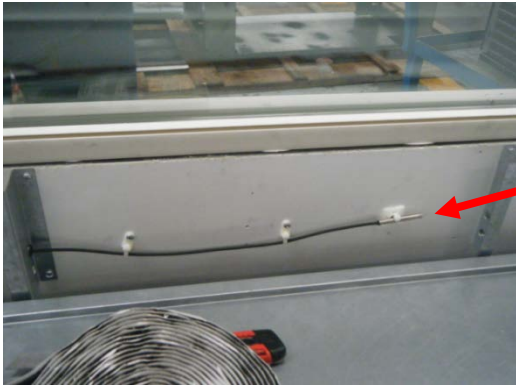
Note: The Controller Display RTN400 will not fit in the existing bracket. You must use the new support display provided.

4. Insert the controller display into the support display.
Connect cable controller to control display.



5. Replace black Safe-Net air sensor with green RTN sensor.

6. Replace yellow Safe-Net defrost sensor with orange RTN sensor.



Air Sensor
Old Sensor-Black
New Sensor-Green

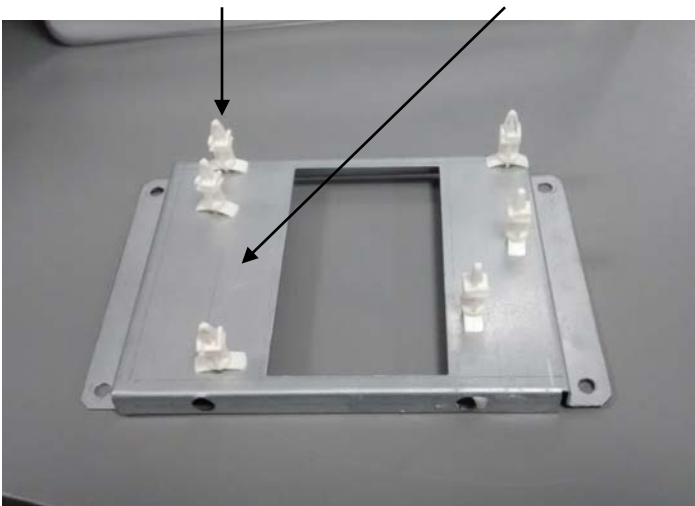


Defrost Sensor
Old Sensor-Yellow
New Sensor-Orange

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 !!

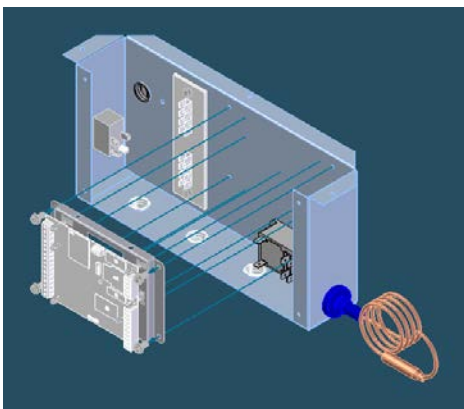
7. Install Plastic Spacers onto Support Controller.



8. Secure Control RTN400 to Plastic Spacers



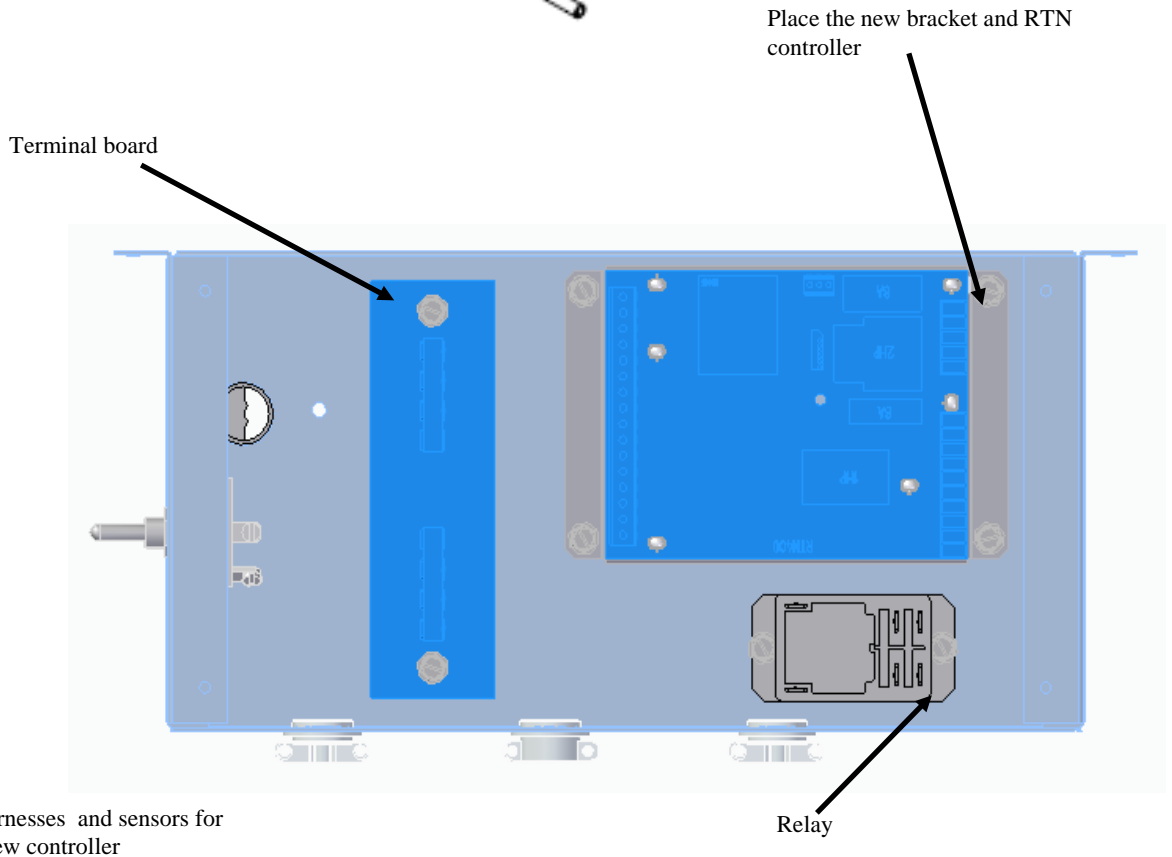
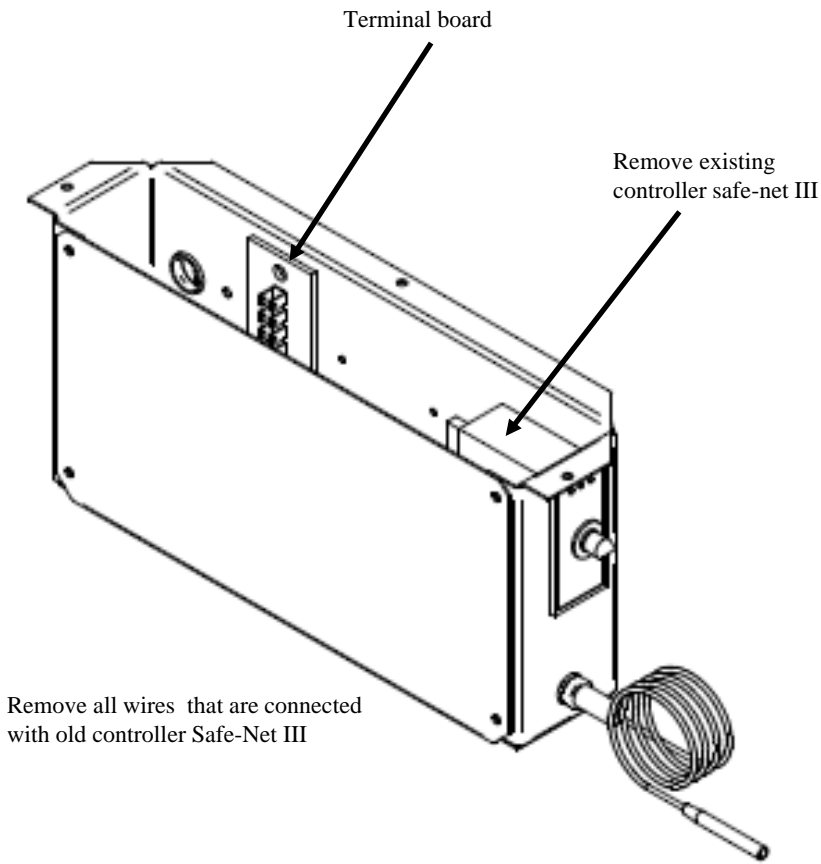
9. Use the Hex Head 5/16" screw to secure the assembly inside the control box



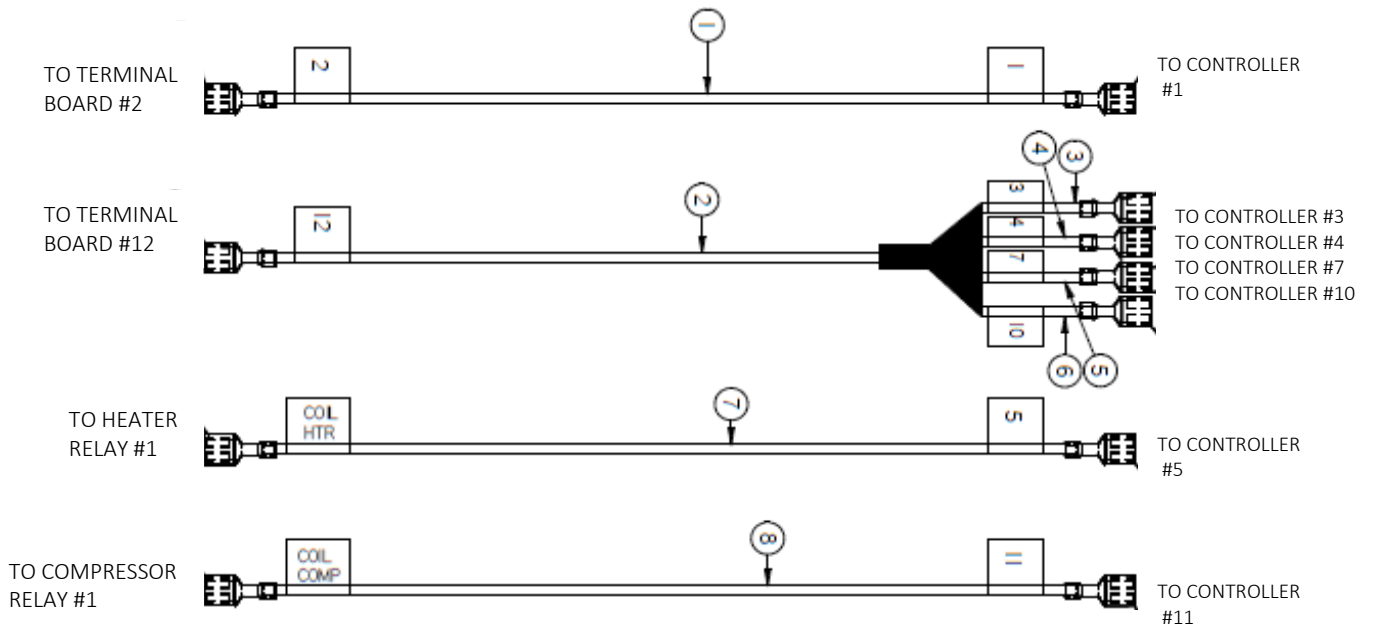
*Optional Procedure: Instead of mounting the completed assembly, consider mounting the base (with spacers only) first. The board can then be snapped onto the spacers. This will prevent any damage to the board caused by being hit with a drill during the mounting procedure.

10. 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.

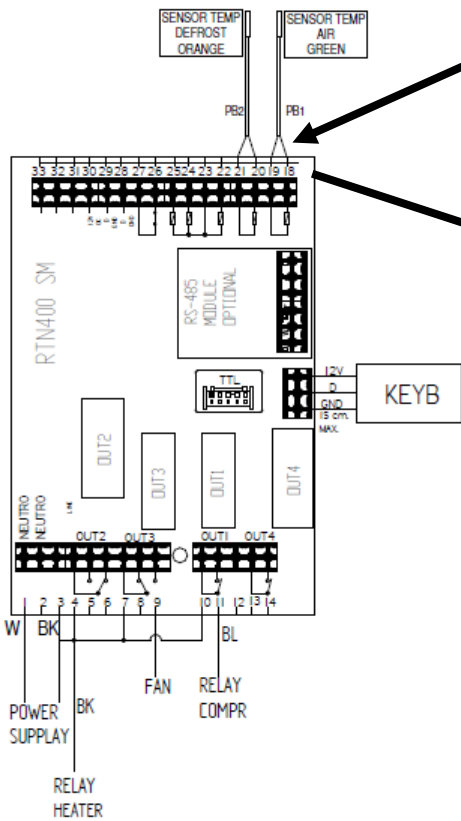


11. Install wires to controller and terminal board as shown below:



3041994-HARNES-RTN400 ISF

12. Connect Sensors wires to controller as shown below:

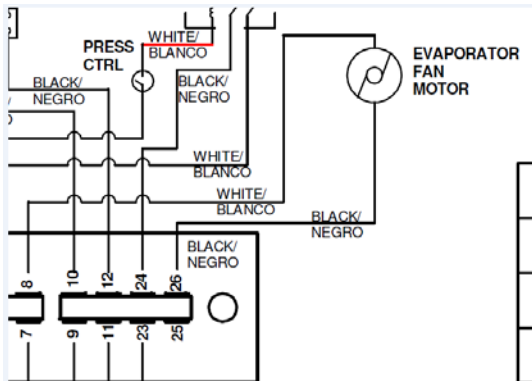


Sensor connections

Orange: #21 Black wire & #20 White wire
 Green: #19 Black wire & #18 White wire



RTN Connections Diagram (ISF)



13. Verify black wire to terminal board #26 is connected to evap fan motor.

14. Disconnect this wire from terminal board #26 and connect again to RTN400 controller #9.

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 ISF dual temp is -33°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:

3051437-LABEL-PRMTR ISF DUAL TEMP

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 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 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.

LOW TEMP TO MEDIUM TEMPERATURE SETPOINT ADJUSTMENT

Apply to ISF + Dual Temp kit

KDEPLUS BUTTONS

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

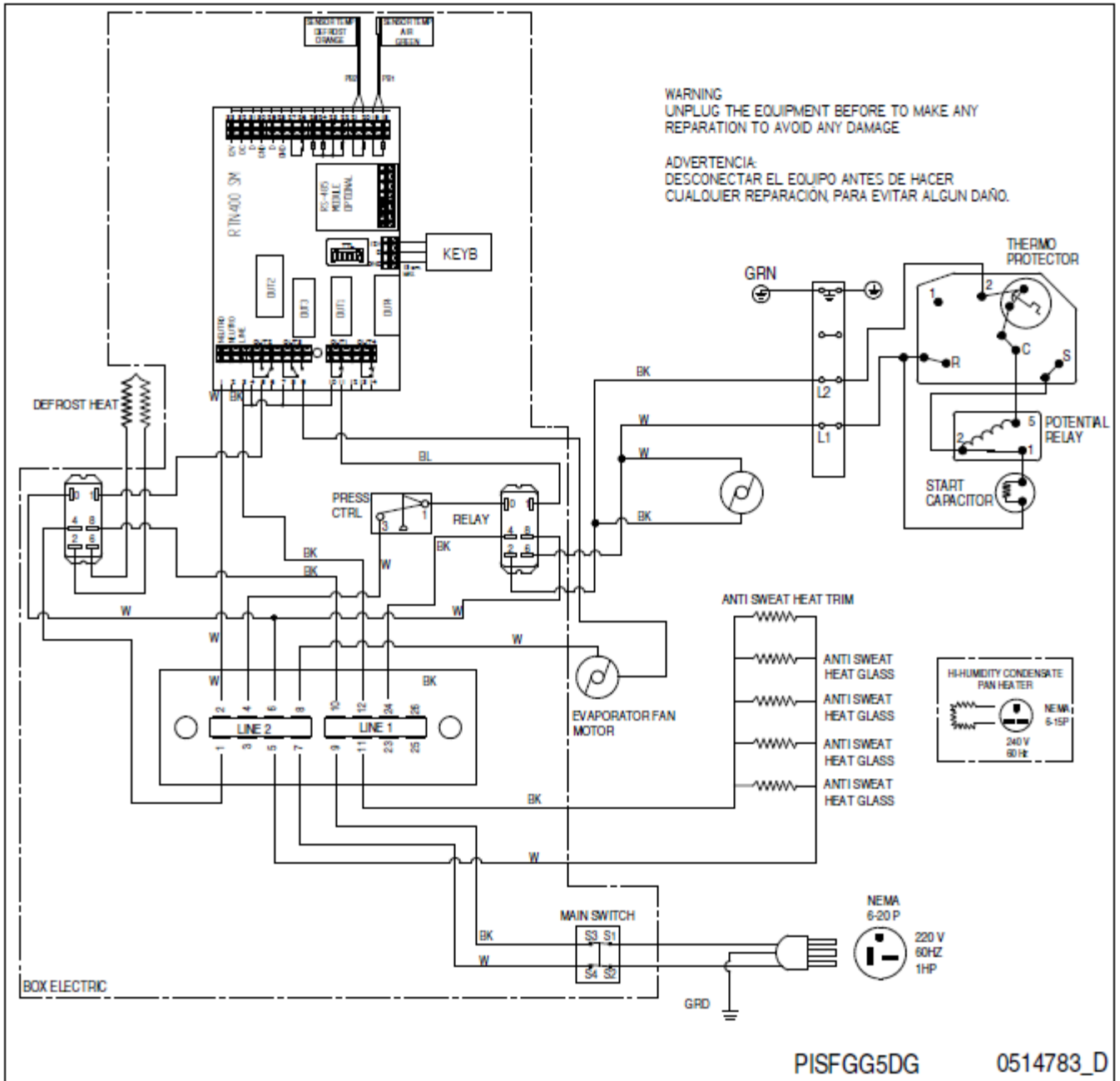


This case is pre-programmed with the low temperature set-point. Follow the steps below to convert the case to medium temperature operation.

1. 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.
ISF Setpoint is **-33°F** (Low Temp Setpoint)
2. To change the Setpoint value to medium temp, press the **UP** or **DOWN** keys within 15 seconds, and change it to **14°F**.
3. Press **SET** to confirm the modification.

No other setpoint changes are required. To convert back to low temp operation, simply change the setpoint back to **-33°F**

Wiring Diagram ISFGG5DG / ISFGG10DG



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

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

BOX ELECTRIC

PISFGG5DG

0514783_D