HUSSMANN®

P/N 3048544_B

June 2018

RTN400

CONTROLLER
RETROFIT

REPLACEMENT FOR
SAFENET III CONTROLLERS

**MD10**
MD14

⚠ 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 MDUL

RETROFIT PARTS CONTROL RTN400
CONTROL ASSY MDUL RTN P/N 3048542
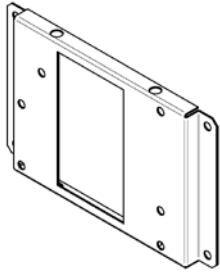
3025276-SUPPORT CONTROLLER

3023553-CABLE CONTROLLER
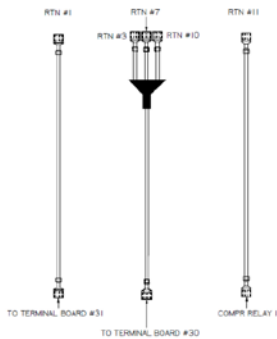

3060964-PRE-PRGM-CONT RTN400 MD

3023552-CONTROL DISPLAY KDE

3023554-SENSOR NTC GREEN

3031571-SENSOR NTC ORANGE

3043415-HARNESS ELEC BOX CONTROLLER

3048543-LABEL-PRMTR RTN MDUL

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

REEPLACING 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 grille and Safenet III display

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

Front Grille

Safe-Net III display
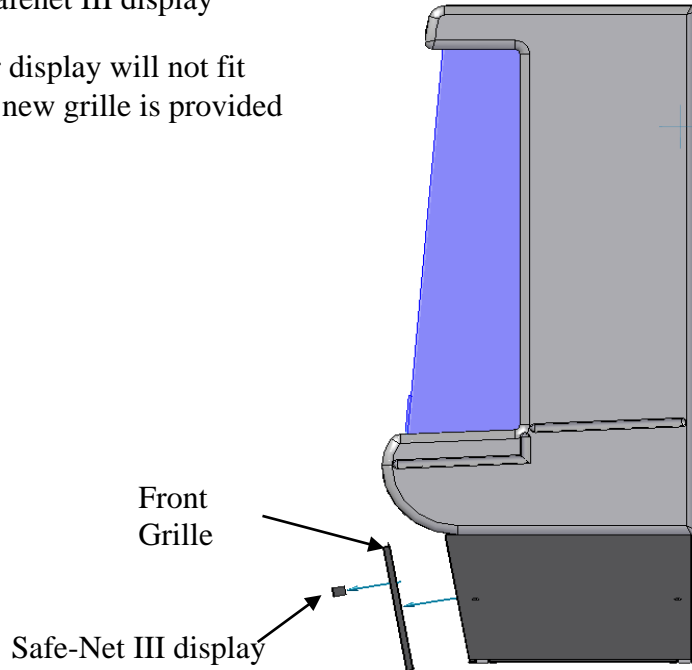
3. Insert the controller display into the new grille. Connect cable controller to control display.
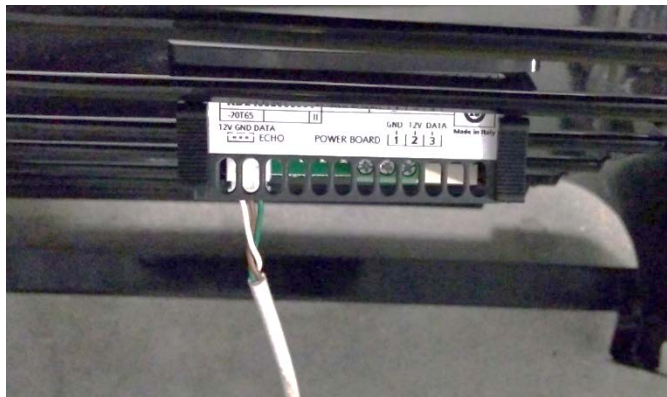
3. Replace sensors.

3.1. Replace black Safe-Net air sensor with green RTN sensor.
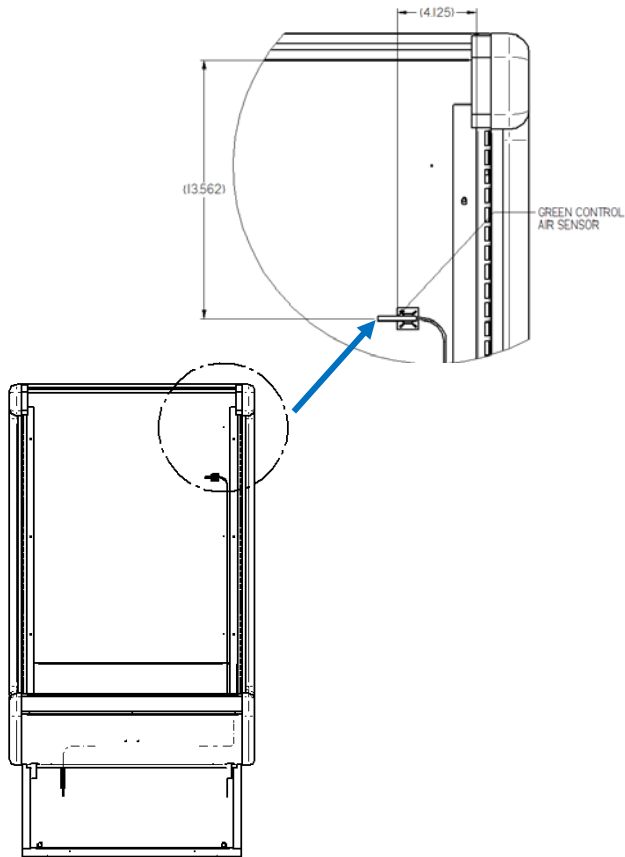
3.2 Replace yellow Safe-Net defrost termination sensor with orange RTN sensor.
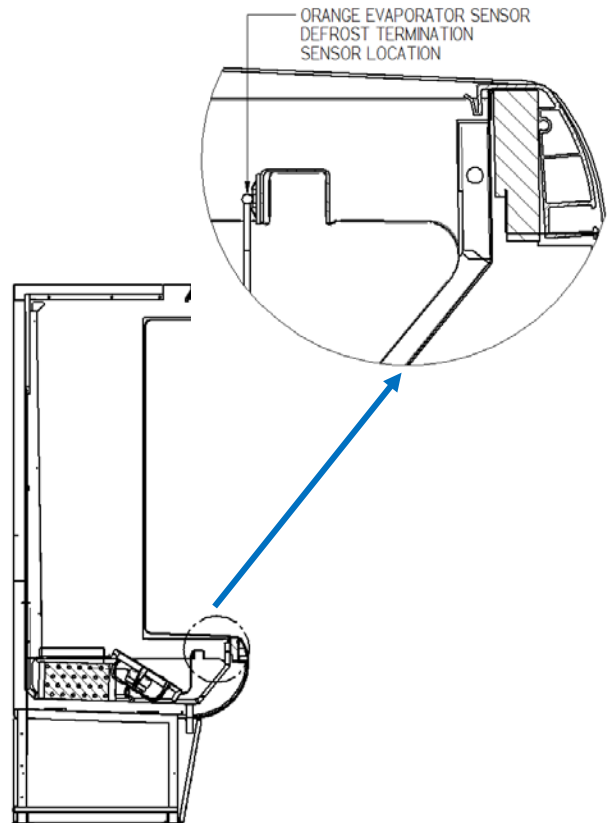
Note: The existing sensors are NOT compatible with the RTN400 and must be replaced with the sensors provided in the retrofit kit.

DO NOT SPLICE SENSOR WIRES !!

4. Install Plastic Spacers (6pcs.) onto support controller.
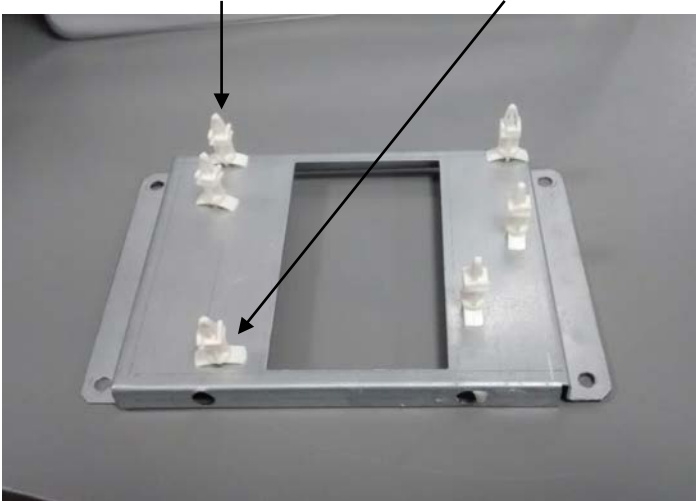
5. Secure Control RTN400 to plastic spacers

6. Use the Hex Head 5/16" screw to secure the assembly inside the control box
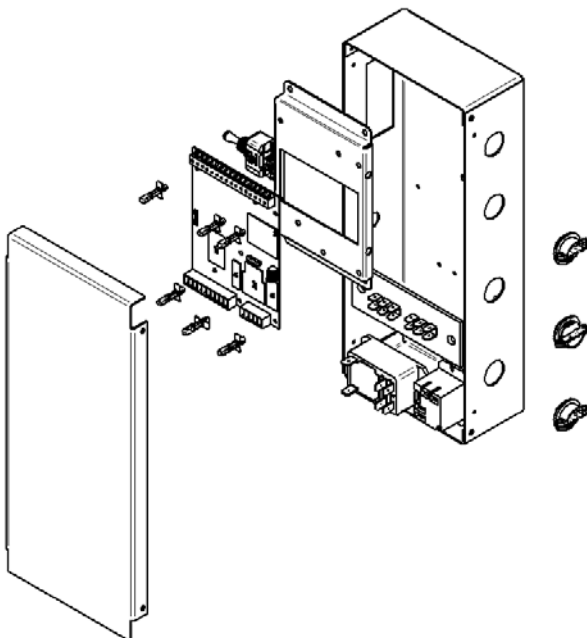
*Optional Procedure: Instead of mounting the completed assembly, consider mounting the base (with spacers only) first. The board can then be snapped onto the spacers. This will prevent any damage to the board being hit with a drill during the mounting procedure.

7. Remove Safenet III controller and harness wiring from control box
   Note: Make sure to remove the controller's harness wires from the terminal board.
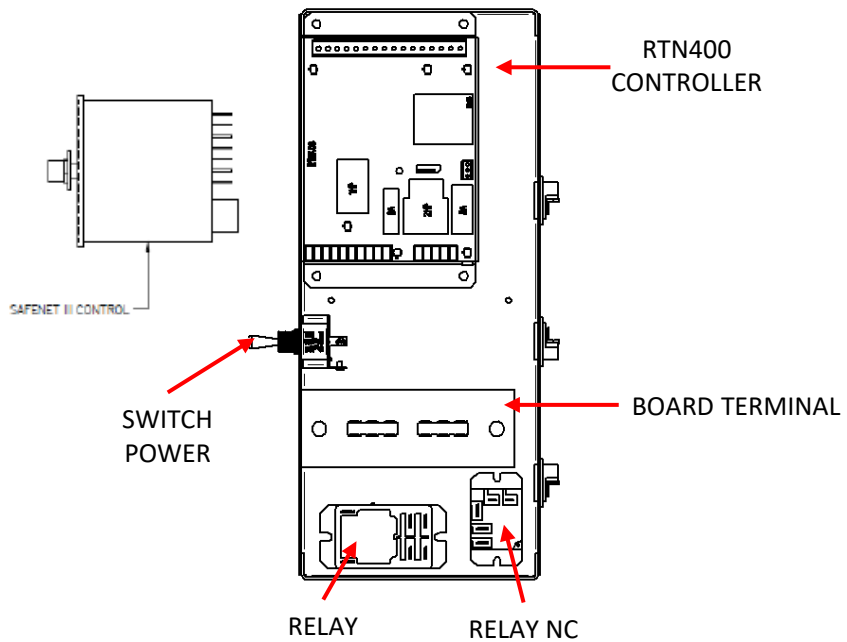
8. Install wires to controller and terminal board as shown below:
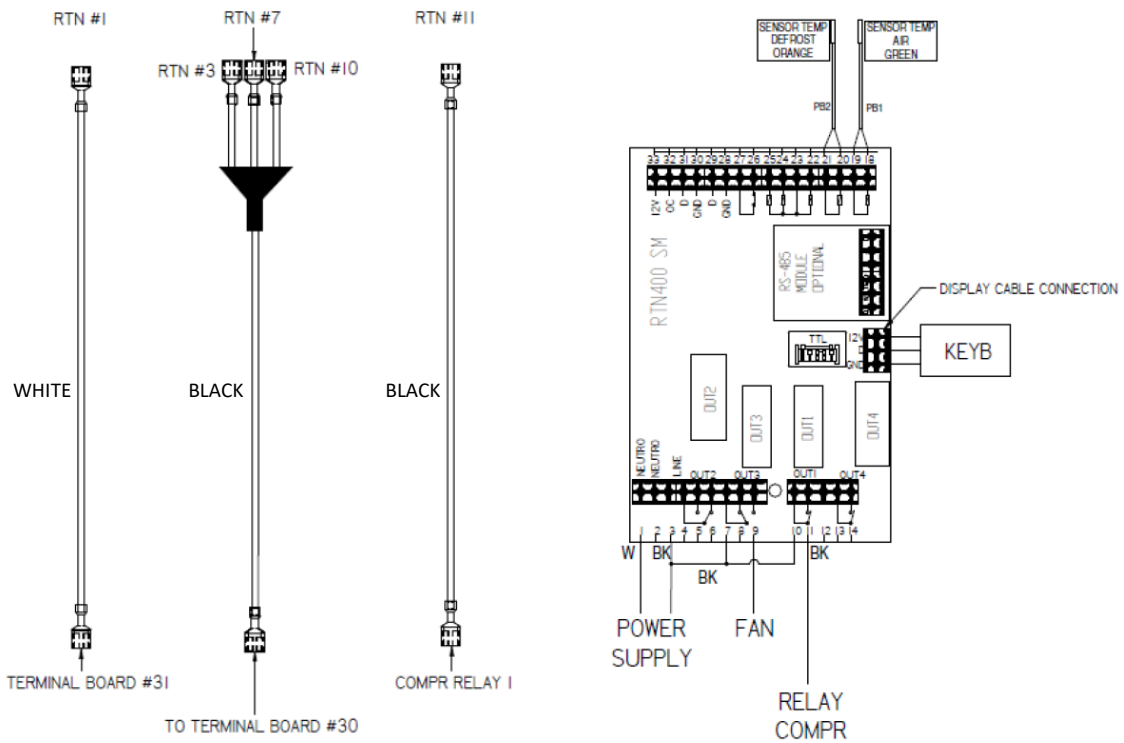
9. Connect sensor wires to controller as shown below. Connect cable controller to controller RTN400.
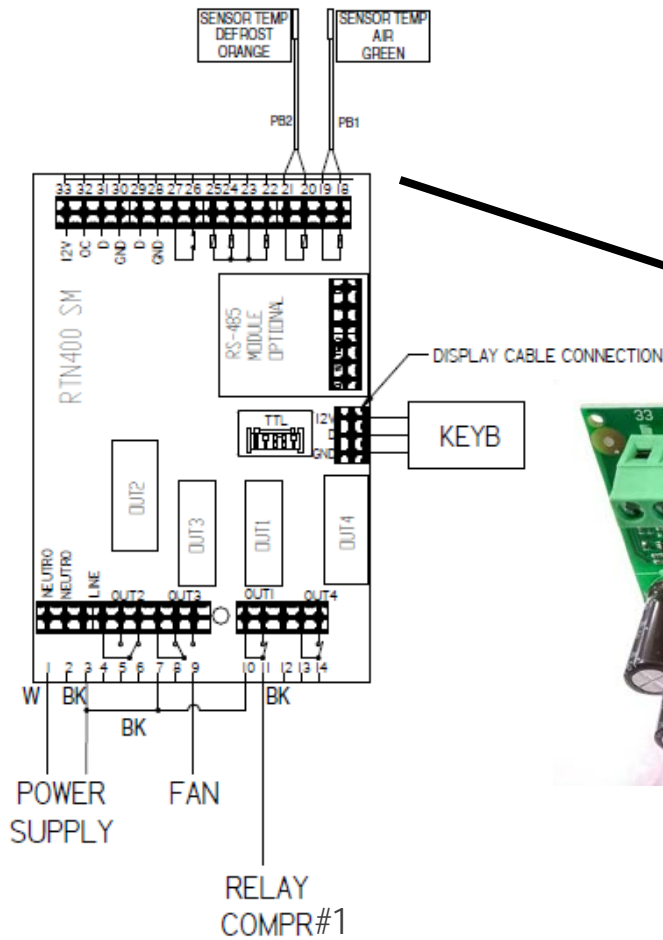
Sensor connections
Orange: #21 Black wire & #20 White wire
Green: #19 Black wire & #18 White wire

10. Verify black wire to terminal board #26 is connected to evaporator fan motor.

11. Disconnect this wire from terminal board #26 and connect again to RTN400 controller #9.
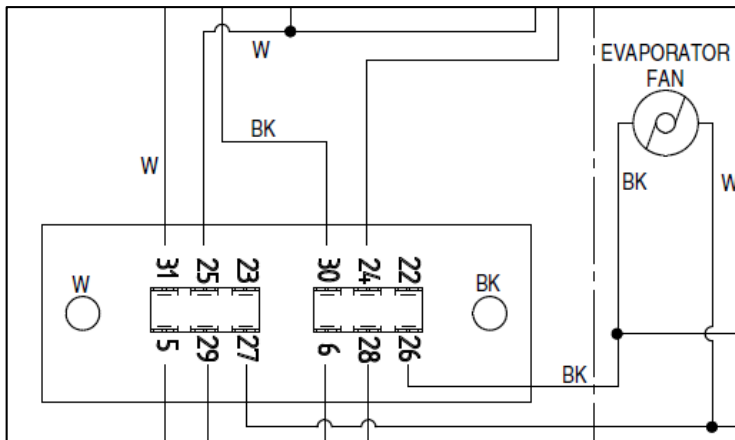
*Previous connection with Safe-Net control

12. Close control box and reinstall the front grille.

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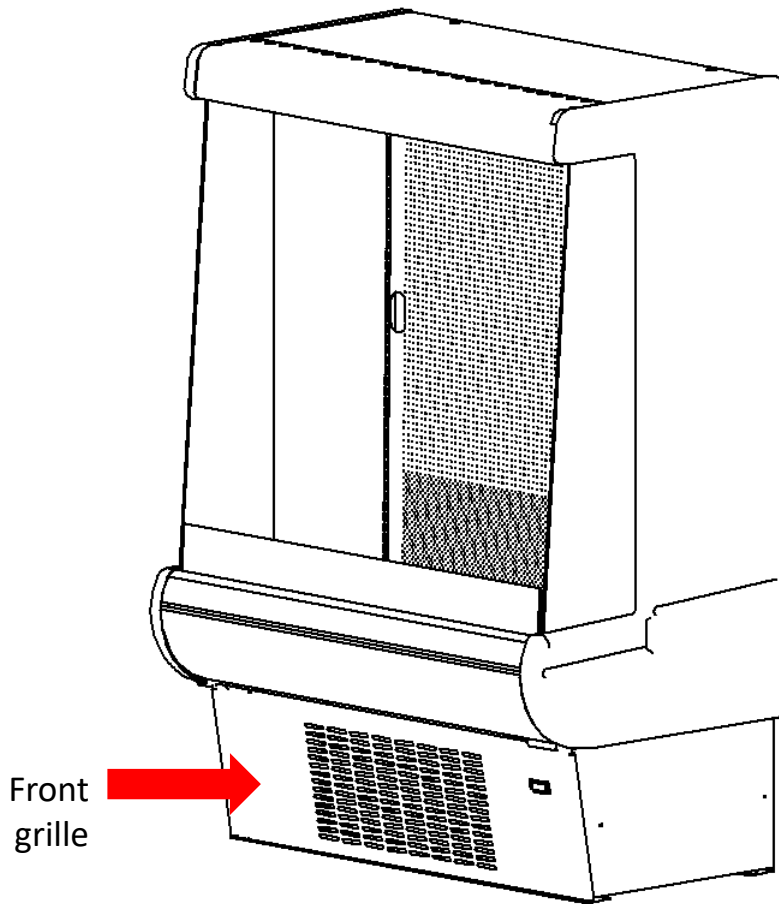
The new controller is preprogrammed and should not require adjustments. You are now ready to start the unit and verify the set-points.

- 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 MD10 & MD14, the preprogrammed setpoint is 30°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 ⊼ and ⊻ keys within 15 seconds.
Press set to confirm the modification.

2)

It is possible to disable the keypad on this device.
The keypad can be locked by programming the "LOC" parameter appropriately.
With the keypad locked, you can still access the "Machine Status" menu by pressing set to display the Setpoint, but you cannot edit it. To disable the keypad lock, repeat the locking procedure.

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:

UP ① ⊼ ⓪ ③ STANDBY or ESC
DOWN ② ⊻ SET ④ SET

To see parameters info please refer to document:

3048543-LABEL-PRMTR RTN MDUL / MD10 & MD14

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	⏫	• Scrolls through menu items • Decreases values	Activates the **Manual Defrost function** (from outside menus).	---
2	⏬	• Scrolls through menu items • Decreases values	Function can be configured by the user (from outside menus). (see parameter H32)	---
3	⏻	• Returns to the previous menu level • Confirms parameter value	Activates the Stand-by function (from outside menus).	---
4	set	• 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.
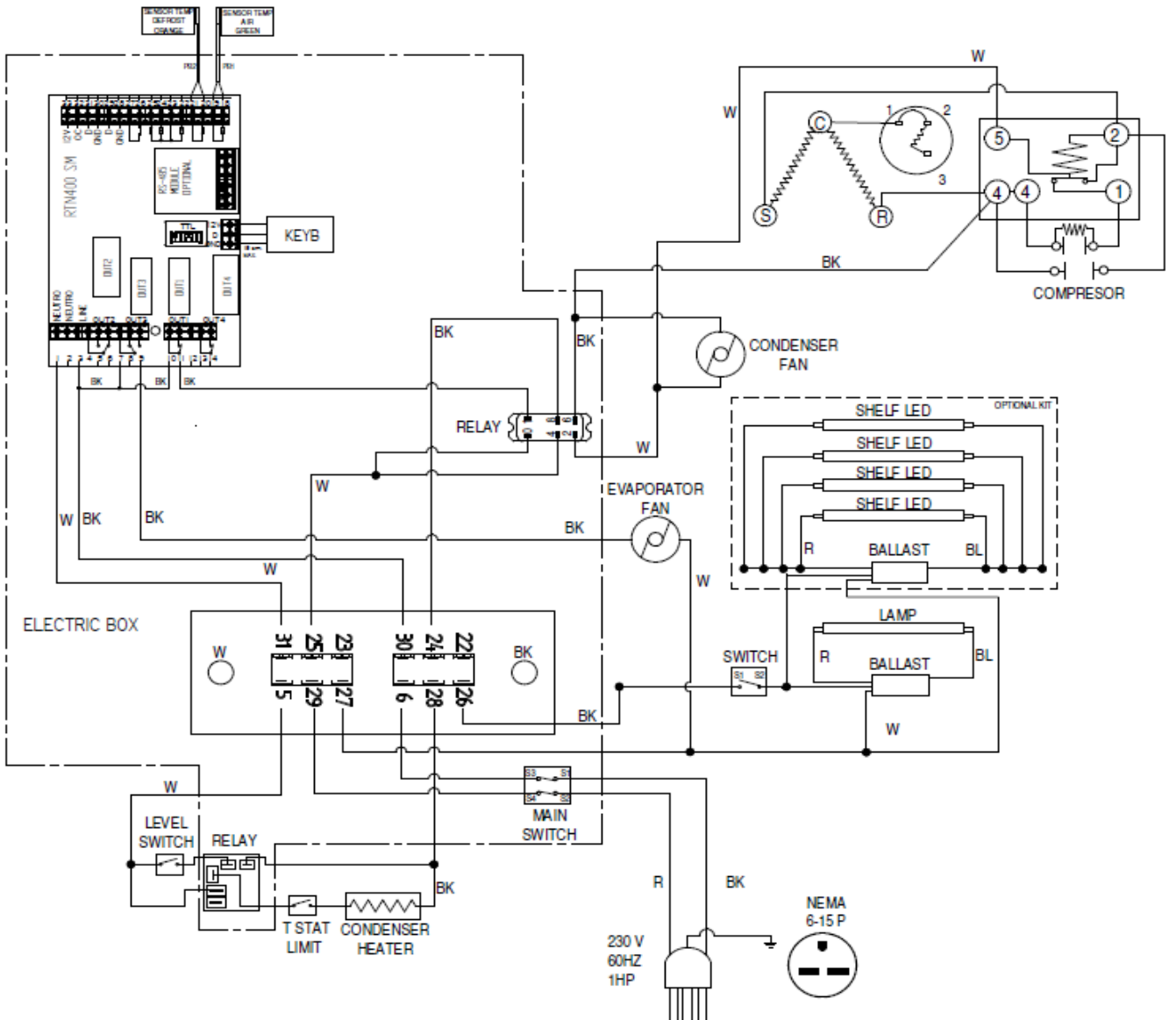
Wiring Diagram MD10

ELECTRIC SPECS
MODEL   MD10UL
VOLTAGE   208-230 V
FRECUENCY   60 HZ
COMPRESSOR   NJ6226Z EMBRACO

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

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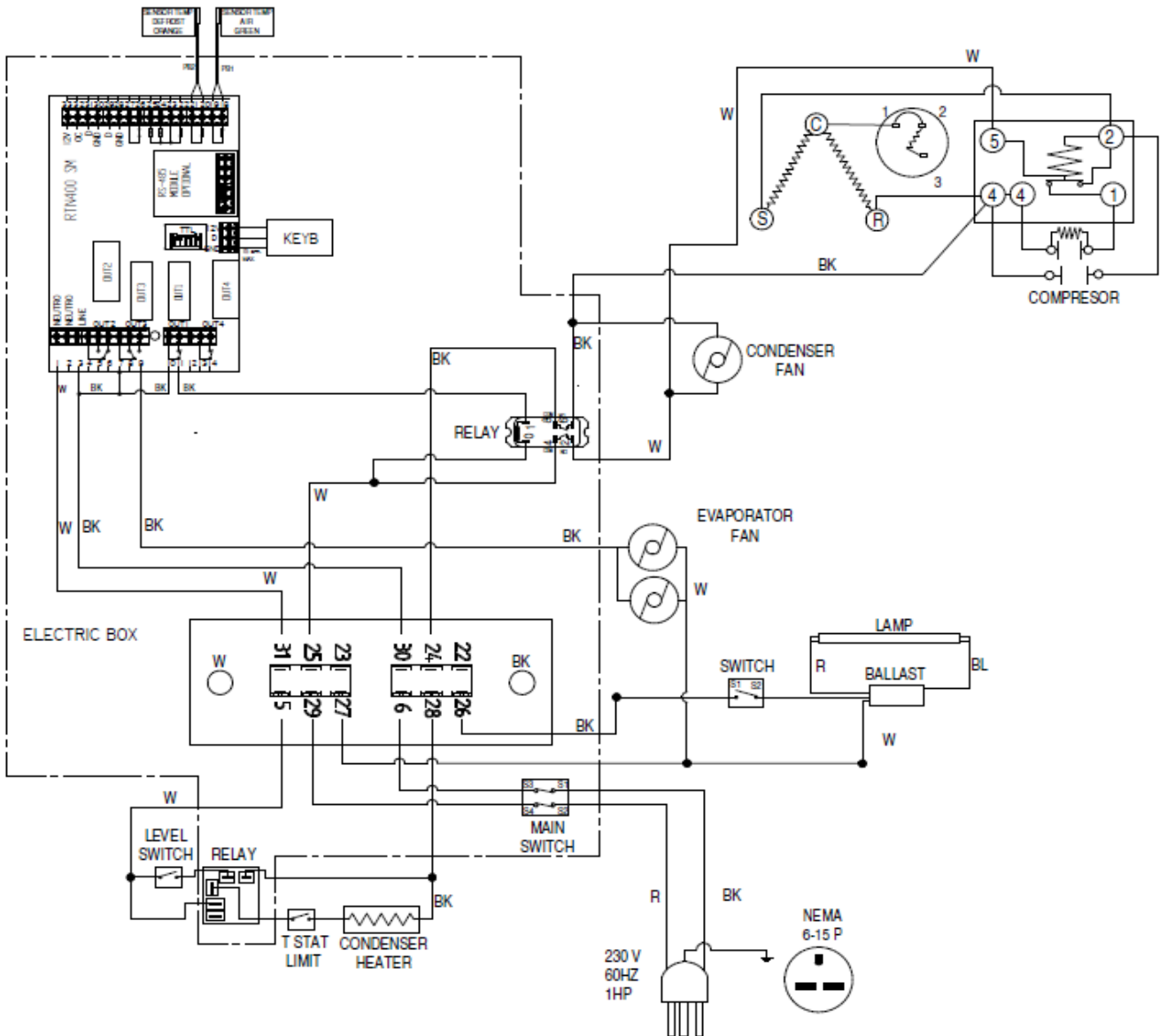CUALQUIER REPARACIÓN, PARA EVITAR ALGUN DAÑO.

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Wiring Diagram MD14