AN EXCHANGE OF TECHNICAL INFORMATION

Number: **TL008 - 2025**
Subject: **R-1234yf Certified units** **Released: December 16, 2025**

Carrier has released units that are OEM certified to be used with A2L R-1234yf refrigerant. These units come equipped with an R-1234yf ready compressor and a pressure relief valve (PRV) as seen in figure 1. The units are charged with R-134a refrigerant from the factory and can be converted to R-1234yf. Note: ISO20854-2019 prohibits R-1234yf from being charged into non-OEM certified units.

Model	Original Unit Model Number	Model number after conversion
PrimeLINE	571-200 to -249	571-250 to -299
PrimeLINE EDGE	571-500 to -549	571-550 to -599
OptimaLINE	701-100 to -149	701-150 to -199

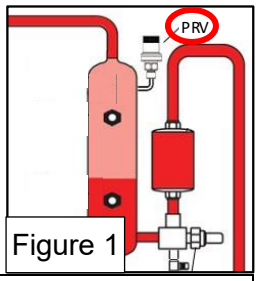

Figure 1

Prior to converting to R-1234yf, confirm that a R-1234yf compatible compressor is installed. Below is a table of units and their R-1234yf compatible compressors. If a compressor that is not R-1234yf compatible is installed because of an earlier replacement, the unit is no longer certified for R-1234yf conversion.

Model	Compressor (production/service)	Service Compressor Kit
PrimeLINE	18-10178-01, -02 / -23, -26	18-10178-22, -26
PrimeLINE EDGE	18-10179-01, -02 / -23, -25	18-10179-22, -24
OptimaLINE	18-10201-00	18-10201-20

To convert a unit to R-1234yf, a model specific kit must be used. Each kit includes service fittings, filter-dryer, warning buzzer, labels and an R-1234yf sensor. The buzzer is located inside the control box and will sound off during Pretrip and when R-1234yf levels are above 20% of its lower flammability limit (LFL). (Figure 2) The R-1234yf sensor is installed on the center tube sheet extension above the coil accessible from the control box side access panel of the unit (Figure 3). It consists of a terminal resistor ("TER" on schematic, PN 22-69299-00), a filter (PN 10-66816-10), and a sensor (PN 10-00555-00). When ordering replacements, the sensor includes a filter.

Fig 2

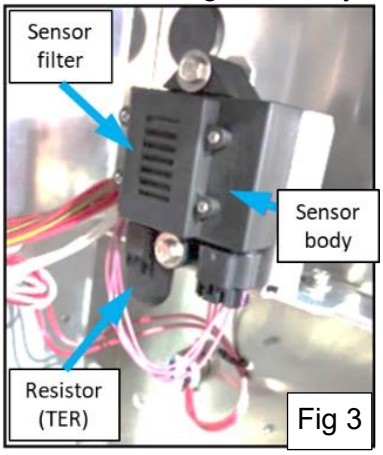

Fig 3

Units configured for R-1234yf will have new alarms, AL084 (R-1234yf LFL alarm) and AL085 (R-1234yf sensor fault), new code selects (Cd87 and Cd89), and new Pretrip tests (P0-1 and P0-2).

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The new alarms are based on readings from the R-1234yf sensor. The R-1234yf sensor monitors and detects the concentration level of R-1234yf refrigerant in the container box, since high concentrations can potentially become flammable in enclosed areas, when combined with high temperatures. When the sensor detects a high enough concentration, AL084 (R-1234yf Refrigerant Leak Detected) will trigger, the buzzer will sound, and the unit will shut down. If the sensor or connection to the sensor faults, AL085 (R-1234yf Sensor Internal Sensor Fault) will trigger, the buzzer will sound, and the unit will go to shut down mode.

Alarm	Description
AL084	R-1234yf Refrigerant Leak Detected
AL085	R-1234yf Sensor Fault

When Alarm 084 or 085 occurs, vent the inside of the container by opening the doors, access panels and/or the fresh air vent for 10 minutes prior to entering the unit.

New code selects Cd87 and Cd89 have been added for R-1234yf unit. Cd87 is for testing the buzzer - on the display, the left screen will show Cd87, while the right screen will show, “tESt”. Pressing the ENTER key twice will sound the buzzer three times. Cd89 is for viewing the remaining life and resetting the filter cartridge hours, on the R-1234yf sensor. The filter cartridge requires servicing, every 17,500 powered-on hours. The remaining life in the filter is viewed by selecting Cd89. The filter counter can be reset by pressing and holding the ENTER key for 10 seconds. If the controller is replaced, the remaining life of the filter will be set to 3500 hours. It is recommended to replace the filter, at the same time the controller is replaced, so that the filter life timer can be reset accurately. There is no alarm for an expired filter life, but it will result in a Pretrip failure.

Code Select	Description
CD87	Buzzer Test
CD89	R-1234yf Sensor Filter hours remaining

Two new Pretrip tests were added for R-1234yf units, P0-1 and P0-2. These tests are skipped on non-R-1234yf units with the result of “Not configured”. P0-1 and P0-2 are run before P0-0, to ensure that the R-1234yf sensor and buzzer are properly functioning. P0-1 tests the buzzer of the unit during remote, manual, and auto Pretrip. During the test, the buzzer will sound and the ENTER key will need to be pressed in order to acknowledge and pass P0-1. If the test is initiated manually using AUTO Pretrip or individual P0 test, the buzzer will sound for 3 minutes before failing with the result of “Timed out” being posted, if not acknowledged by the user. If the test is initiated remotely, the buzzer will sound for 1 minute before declaring “Skip” with the description “By remote selection” will be posted in the download. After P0-1 is completed, the test will move to P0-2. P0-2 checks the remaining life of the R-1234yf sensor filter cartridge. If less than 500 hours remain, the screen will show “Change filter” for 10 seconds, before posting a pass. If there are 0 hours left on the filter life, the screen will show “Change filter” for 10 seconds, before posting a fail.

Pretrip	Description	Pass	Fail	Skip
P0-1	Buzzer Test	Acknowledge buzzer by pressing the ENTER key	On manual initiation, not pressing the ENTER key within 3 minutes	On remote initiation, not pressing the ENTER key within 1 minute OR Unit not configured for R-1234yf
P0-2	R-1234yf Sensor Filter	Hours remaining > 0	Hours remaining = 0	Unit not configured for R-1234yf

If AL084 or AL085 are active, the technician will not be able to interact with the unit. If Alarm 084 occurs, vent the unit and check the evaporator area for leaks. Repair leaks and recharge unit. If Alarm 085 occurs, preform the following test in order to trouble shooting the R-1234yf sensor.

At the controller:

1. Check for 12 Volts between plug SM, pin 7 and CD plug, pin 4 (figure 3) at the controller. If there is no voltage, change controller.
2. Ensure the RB connector is plugged in, and the R-1234yf sensor is connected (RB plug, pins 5 and 6 – figure 4).
3. With the unit off, check resistor value between RB5 and RB6 (should read, ~110 to 130 Ohms).

    - If the resistance is outside of the above values, change the resistor inside of the container
    - If the resistance is within the values, change the sensor

    BEFORE ENTERING THE CONTAINER ENSURE THE CONTAINER BOX IS VENTED PRIOR TO PREFORMING WORK ON THE INSIDE OF CONTAINER. THIS INCLUDES WORK THROUGH THE ACCESS PANELS.

Figure 3

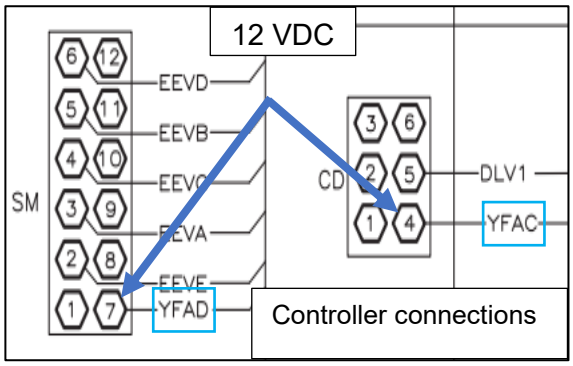
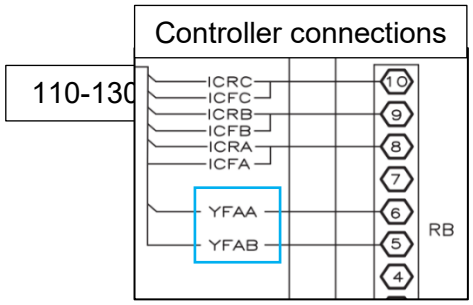


Figure 4



NOTES:

Do not continually top off with R-1234yf refrigerant if a leak is present or the R-1234yf sensor is faulty.

Obtain A2L Refrigerant training, prior to servicing R-1234yf units.

REFERENCE GUIDE:

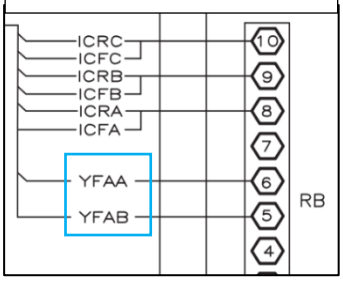
Code Select	Description
Cd87	Buzzer Test
Cd89	R-1234yf Sensor Filter hours remaining

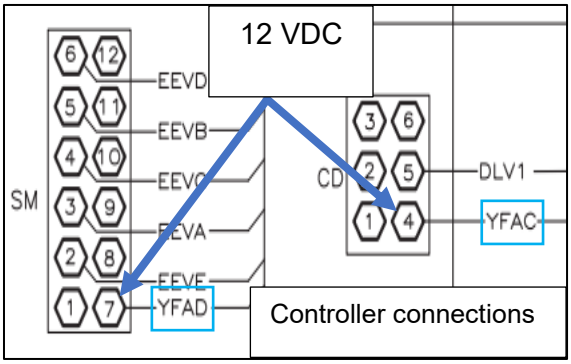
Alarm	Description
AL084	R-1234yf Refrigerant Leak Detected
AL085	R-1234yf Sensor Fault

For R-1234yf Conversion kit, contact your regional field service manager.	
Buzzer	10-00616-00
R-1234yf Sensor + filter	10-00555-00
R-1234yf filter only	10-66816-10
Resistor	22-69299-00
Resistor Ohms (nominal)	~110-130 Ω
PRV (includes O-rings)	14-00476-20

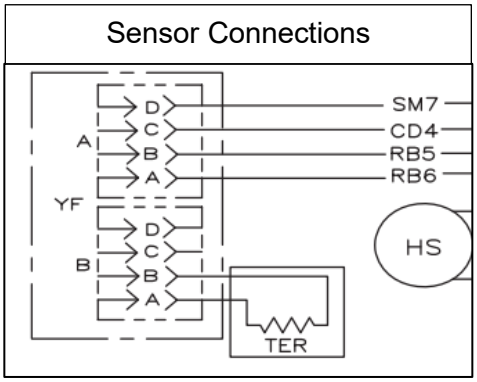
Pretrip	Description	Pass	Fail	Skip
P0-1	Buzzer Test	Acknowledge buzzer by pressing the ENTER key	On manual initiation, not pressing the ENTER key within 3 minutes	On remote initiation, not pressing the ENTER key within 1 minute OR Unit not configured for R-1234yf
P0-2	R-1234yf Sensor Filter	Hours remaining > 0	Hours remaining = 0	Unit not configured for R-1234yf

Controller connections

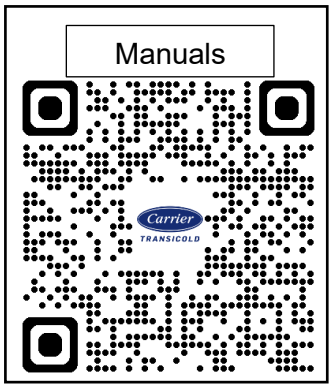


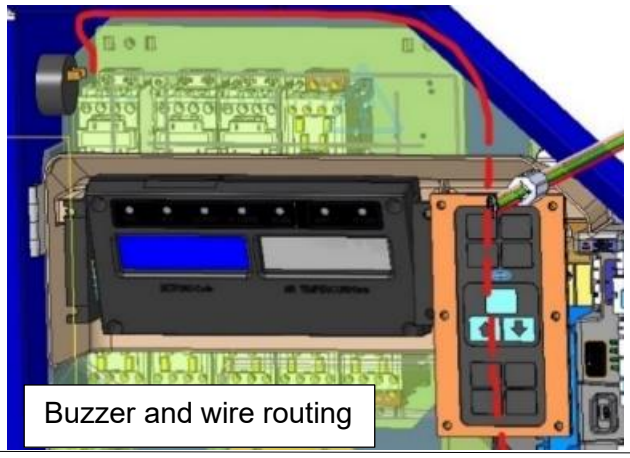


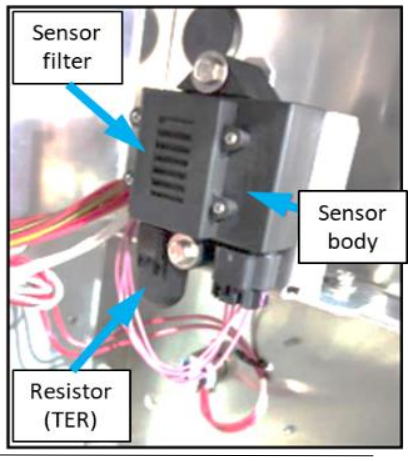
Sensor Connections



Manuals







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