

Large Rooftop Units 20 and 25 Tons Accessory 25 F Low Ambient Kit

Cancels: IIK 559E-180-1 IIK 559F-300-1
9/15/99

Installation Instructions

Part Number CRLOWAMB002A00

PACKAGE CONTENTS

ITEM	QTY	PART NO.
3-Minute Time Delay Relay	1	HN67XZ210
Outdoor Fan Contactor	1	HN53CB024
Head Pressure Control Thermostat (HPCT)	1	HH22HB075
Bracket*	1	48DP500512
No. 8B, 5/8-in. Sheet Metal Screws*	2	—
No. 6B, 1/2-in. Sheet Metal Screws	8	—

*Only needed for cooling only units. Discard if installing on a gas unit.

SAFETY CONSIDERATIONS

Installation, start-up, and servicing of air-conditioning equipment can be hazardous due to system pressure, moving parts, and electrical components.

Only trained and qualified service personnel should install, repair, or service air-conditioning equipment. Untrained personnel can perform basic maintenance functions such as cleaning coils or replacing air filters. All other operations should be performed by trained service personnel.

When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit or accessory, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves.

▲ WARNING

Before performing maintenance or service on unit, turn off main power switch to unit. Electrical shock can cause injury or death. There may be more than one disconnect switch.

GENERAL

The 25 F Low Ambient accessory is only necessary on 20 and 25 ton, large rooftop units for low ambient operation at outdoor temperatures down to 25 F. In addition to this accessory, a CRWINSTR001A00 winter start kit is also required.

The CRLOWAMB002A00 kit is used on 48/50TJ024 and 028 units and 559F/579F240 and 300 units.

The accessory package sequences outdoor fan motor no. 2 to control head pressure at low ambient conditions (25 to 65 F). The fan cycles off between 52 to 58 F and cycles on between 62 to 68 F. A bi-metal HPCT switch is located in the control box to control the sequencing of the fan motor. The accessory kit also contains a time delay relay that is used to bypass the low-pressure switch for the first 3 minutes after compressor no. 1 starts.

INSTALLATION

Time-Delay Relay (TDR) — The TDR provides a 3-minute time delay for the low-pressure switch (LPS), and is a normally closed relay. Note that the TDR terminals are 1/4-in. quick connects. The lower connections are the coil connections and the upper connections are the contact connections. There are 2 TDRs that need to be installed: one contained in the low ambient accessory and one in the winter start accessory. Install the TDRs in the upper right corner of the control box. See Fig. 1 and 2.

Outdoor (Condenser) Fan Contactor (OFC) Mounting — To install the OFC included with this accessory kit, mount it next to the current OFC using two 8B, 5/8-in. sheet metal screws provided. See Fig. 2.

Head Pressure Control Thermostat (HPCT) and OFC Wiring — Wire the HPCT and the OFC2 as follows:
208/230-V UNITS (FIG. 3 AND 4)

1. Remove black and yellow wires from the existing OFC-11 and OFC-13 that connect to OFM2.
2. Remove blue wires from FU3 that connects to OFM2.
3. Install a field-supplied black wire from existing OFC-21 to newly installed OFC2-21. Wire must be a minimum of 10 AWG (American Wire Gage), NEC (National Electrical Code) Class 90 C wire.
4. Install a field-supplied yellow wire from existing OFC-23 to newly installed OFC2-22. Wire must be a minimum of 10 AWG, NEC Class 90 C wire.
5. Install a field-supplied blue wire from FU3 to newly installed OFC2-23. Wire must be a minimum of 10 AWG, NEC Class 90 C wire.
6. Connect black, yellow, and blue leads from OFM2 to newly installed OFC-11, OFC-12, and OFC-13 respectively.
7. Route the HPCT wires into the main control box through an existing connector in the middle of the control box.
8. Attach one wire from the HPCT to the existing OFC-C1, and the other to the newly installed OFC2-C1.
9. Add a brown wire from the existing OFC-C2 to the newly installed OFC2-C2. This wire should be a minimum of 18 AWG, NEC Class 90 C wire.

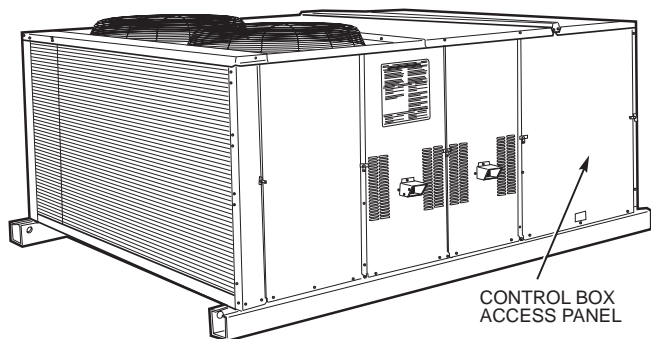
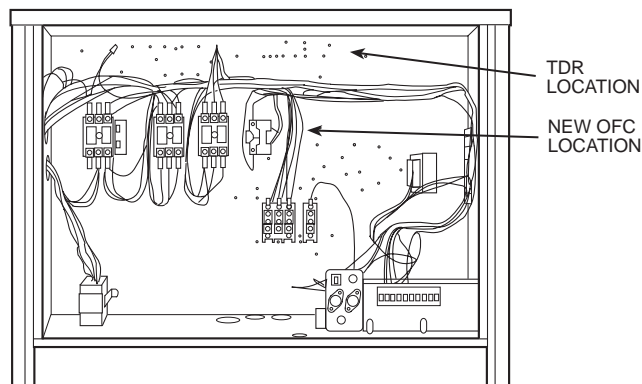


Fig. 1 — Control Box Access Panel Location (25 Ton, Gas Heat Unit Shown)



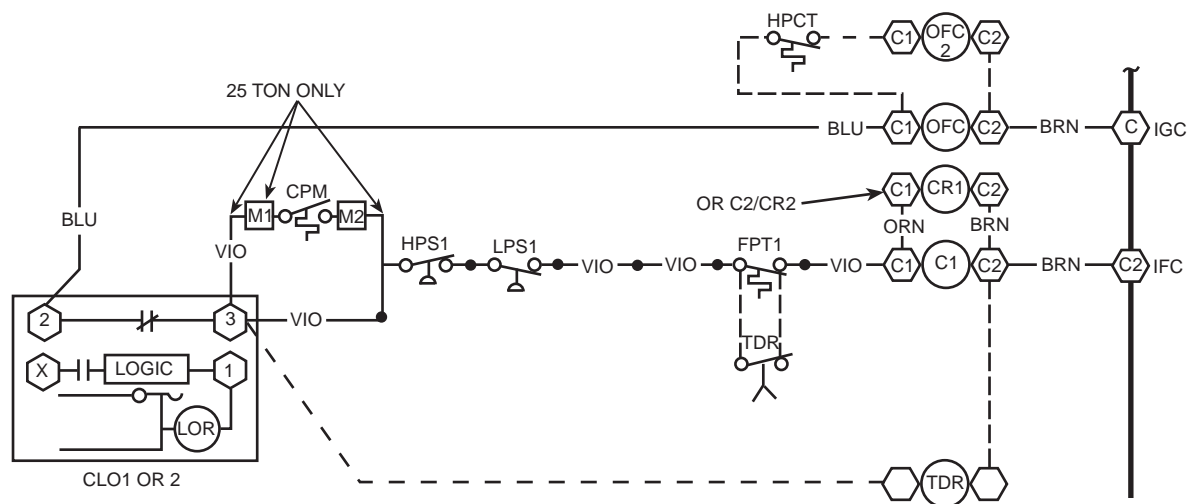
LEGEND

- OFC — Outdoor Fan Contactor
- TDR — Time-Delay Relay

Fig. 2 — Low Ambient Kit Installation Details (208/230 V Shown)

460-V AND 575-V UNITS (FIG. 3 AND 5)

1. Remove black, yellow and blue wires from the existing OFC-11, OFC-12 and OFC-13 that connect to OFM2.
2. Install a field-supplied black wire from existing OFC-21 to newly installed OFC2-21. Wire must be a minimum of 10 AWG, NEC Class 90 C wire.
3. Install a field-supplied yellow wire from existing OFC-22 to newly installed OFC2-22. Wire must be a minimum of 10 AWG, NEC Class 90 C wire.
4. Install a field-supplied blue wire from existing OFC-23 to newly installed OFC2-23. Wire must be a minimum of 10 AWG, NEC Class 90 C wire.
5. Connect black, yellow, and blue leads from OFM2 to newly installed OFC-11, OFC-12, and OFC-13 respectively.
6. Route the HPCT wires into the main control box through an existing connector in the middle of the control box.
7. Attach one wire from the HPCT to the existing OFC-C1 and the other to the newly installed OFC2-C1.
8. Add a brown wire from the existing OFC-C2 to the newly installed OFC2-C2. This wire should be a minimum of 18 AWG, NEC Class 90 C wire.



LEGEND

- C — Compressor
- CLO — Compressor Lockout
- CPM — Compressor Protection Module
- CR — Control Relay
- FPT — Freeze Protection Thermostat
- HPCT — Head Pressure Control Thermostat
- HPS — High-Pressure Switch
- IFC — Indoor-Fan Contactor
- IGC — Integrated Gas Unit Controller
- LOR — Lock-Out Relay
- LPS — Low-Pressure Switch
- OFC — Outdoor-Fan Contactor
- TDR — Time-Delay Relay

Fig. 3 — Typical 24-V Wiring of TDR, HPCT, and Outdoor-Fan Contactor

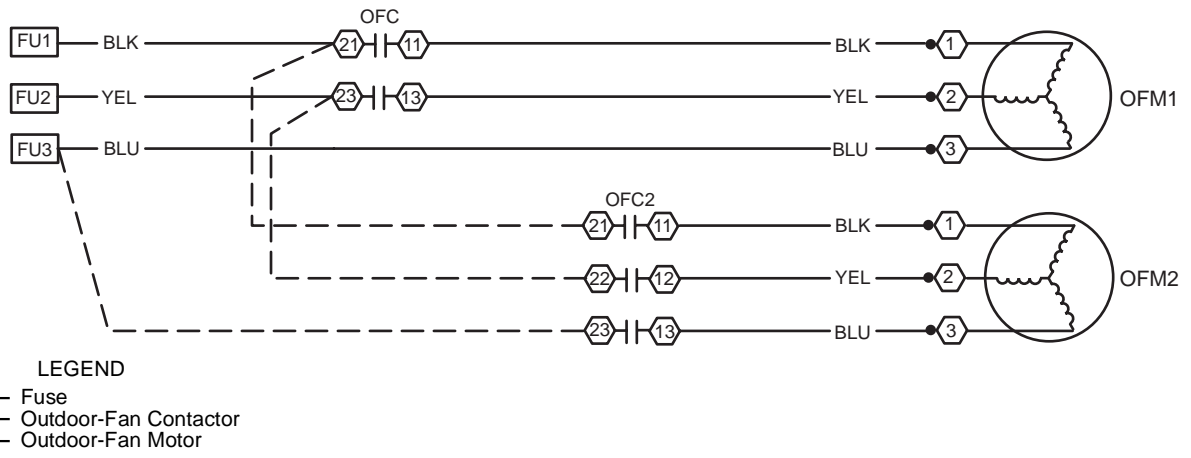


Fig. 4 — Typical 230-V Wiring of Outdoor-Fan Contactor

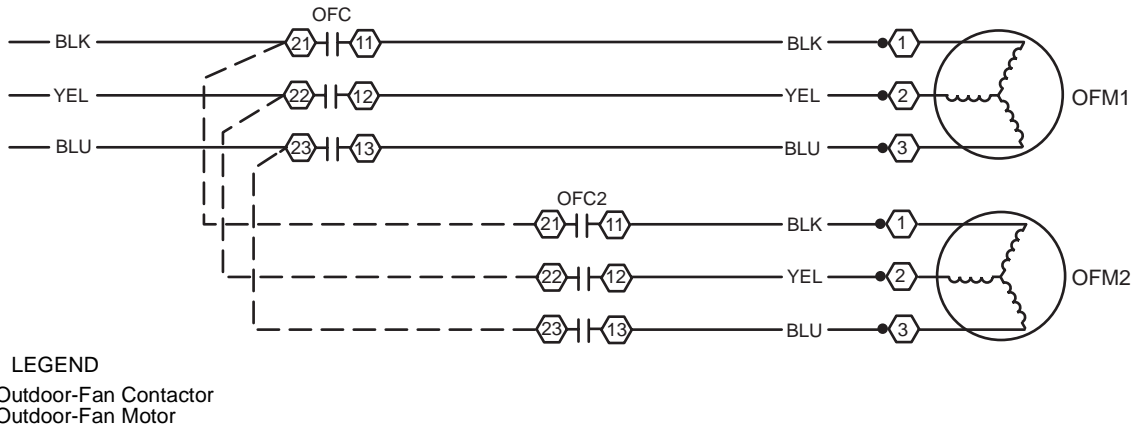


Fig. 5 — Typical 460-V and 575-V Wiring of Outdoor-Fan Contactor

