

ACCESSORY KIT INSTALLATION INSTRUCTIONS

LOW AMBIENT ACCESSORY

MODEL 2LA04704632 FOR 3 THRU 12-1/2 TON SINGLE PACKAGE AIR CONDITIONERS 1 & 2 OUTDOOR FAN SYSTEMS

GENERAL

The Electronic Low Ambient Controller 2LA04704632 is designed to regulate condenser head pressure at low ambient temperatures by varying the amount of airflow through the condenser.

PRE-INSTALLATION INFORMATION/INSTRUCTIONS

WARNING

Improper installation, adjustment service, or maintenance can cause injury or property damage; therefore, only a qualified installer or qualified service personnel should perform this conversion.

- For single phase, permanent split capacitor motors.
- Line Voltage Range(s): available from 120V AC through 600V AC.
- Wiring must comply with local and national electric codes.
- Max. running amps under all conditions shall not exceed 10 amps. Locked Rotor Amps (LRA) are not to exceed 30 amps for 1 second.
- The controller requires a 24V AC external power source, supplied from the unit 24V AC control circuit.

CAUTION

It is important that the primary of the 24V AC power source must be on the same primary (lines) serving the motor.

- Speed regulation and performance characteristics will vary with the motor design and motor ventilation capability.

INSPECTION

Table 1 details the parts included in this kit. Inspect the kit to ensure that all parts are included.

TABLE 1: PARTS SUPPLIED WITH KIT

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	161267	Low ambient controller (Includes mounting tape, 2-sensors and cable straps.)
2	1	535866	Accessory Instruction
3	1	526968	Wiring Diagram, Low Ambient Control
4	1	70428	Wire 804/BLU
5	1	70425	Wire 805/BLK
6	1	70436	Wire 806/YEL
7	1	70431	Wire 807/BRN
8	1	7428	Connector, Splice
9	8	7768	Strap, Cable
10	1	5821	Screw, #10-16 X 1.0
11	1	5894	Screw, #10-24 X 1.0

INSTALLING THE CONTROLLER

- Disconnect power to the unit.
- Remove or open the access panels to the filter section (See Figure 2) or blower section (See Figure 3) and the electrical control box.
- Disconnect and remove wire 117/YL that connects the condenser fan motor(s) to the line voltage.
- Mount the controller to the bottom block off plate in the electrical control box using drill screws provided. See Figure 1.
- Wire the control. See Figure 5.
- Setting Minimum Speed: A Minimum Speed Adjustment knob is provided to accommodate the slowest allowable speed for ball bearing or sleeve bearing type motors.

Ball Bearing Motors: 200 RPM - Counter-Clockwise to stop

Sleeve Bearing Motors: 400 RPM - Clockwise to stop
- Setting Range Adjust: A Range Adjust knob is provided to adjust modulation range from 50°F-80°F to 70°F-100°F at a span setting of 30°, or 55°F-80°F to 75°F-100°F at a span setting of 25°. Typically set the range adjustment knob to full clockwise for units having fixed orifice metering devices and full counter clockwise for units having TXV metering devices.

8. Span and HP jumpers are provided: For this application the HP jumper is set to "DA" position. The SPAN jumper should be set at 30° for efficiencies up to 11.0 EER and at 25° for efficiencies above 11.0 EER.

INSTALLING THE SENSOR

1. Install the sensor(s) on the liquid lines just upstream of the expansion device. See Figures 2 and 3.

NOTE: Tie sensor leads to suction line to allow for filter removal.

2. Using the insulation tape provided, secure the sensor to the liquid line. See Figure 4. Stretch the tape slightly, as you wrap it around the sensor and liquid line. Use all the tape, lapping the sensor. Firm contact is required between the metal tab of the sensor and the liquid line.
3. Connect the wiring from the sensor(s) to the "Sensor" input terminals. See Figure 5.

CHECKOUT PROCEDURE

With power disconnected, and the controller wired:

1. With ohmmeter, measure the ohms across the "MOTOR" terminals #1 & #2.
2. If you measure a reading of 5 ohms or less the controller is probably improperly wired.

With the compressor disabled, set thermostat for cooling demand and apply voltage to the unit.

1. Monitor liquid line temperature (°F) and condenser motor voltage and current during installation operation.
2. Verify that both the controller and motor are operating properly.

NOTE: If the sensor temperature (liquid line) at startup is:

- Below (less than) 50°F the motor will not start up. Artificially increase the liquid line temperature above 50°F, or short the sensor terminals.
- Between 50°F and 80°F the motor will start at full speed for a few seconds and immediately modulate to a reduced speed proportional to the temperature sensed. (51°F, min. speed / 79°F, near full speed).
- Above 80°F the motor will start and remain at full speed.

3. Making unit ready for normal operation.

- Disconnect power to the unit & reconnect the disabled compressor.
- Replace or close all access panels.
- Reconnect power to the unit & observe operation.
- Verify operation as described above by monitoring liquid line temperature and observing motor speed.



FIGURE 1 - CONTROL LOCATION



FIGURE 2 - SENSOR LOCATION FILTER SECTION



FIGURE 3 - SENSOR LOCATION BLOWER SECTION

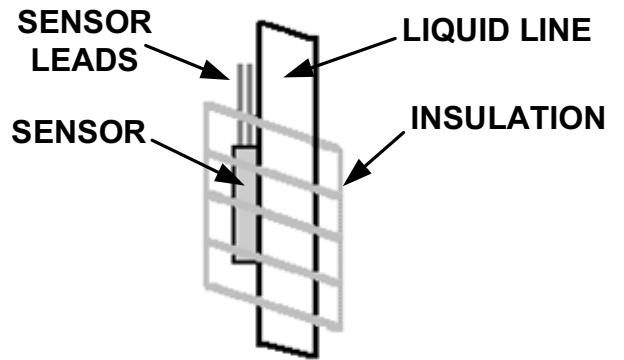


FIGURE 4 - SENSOR INSTALLATION

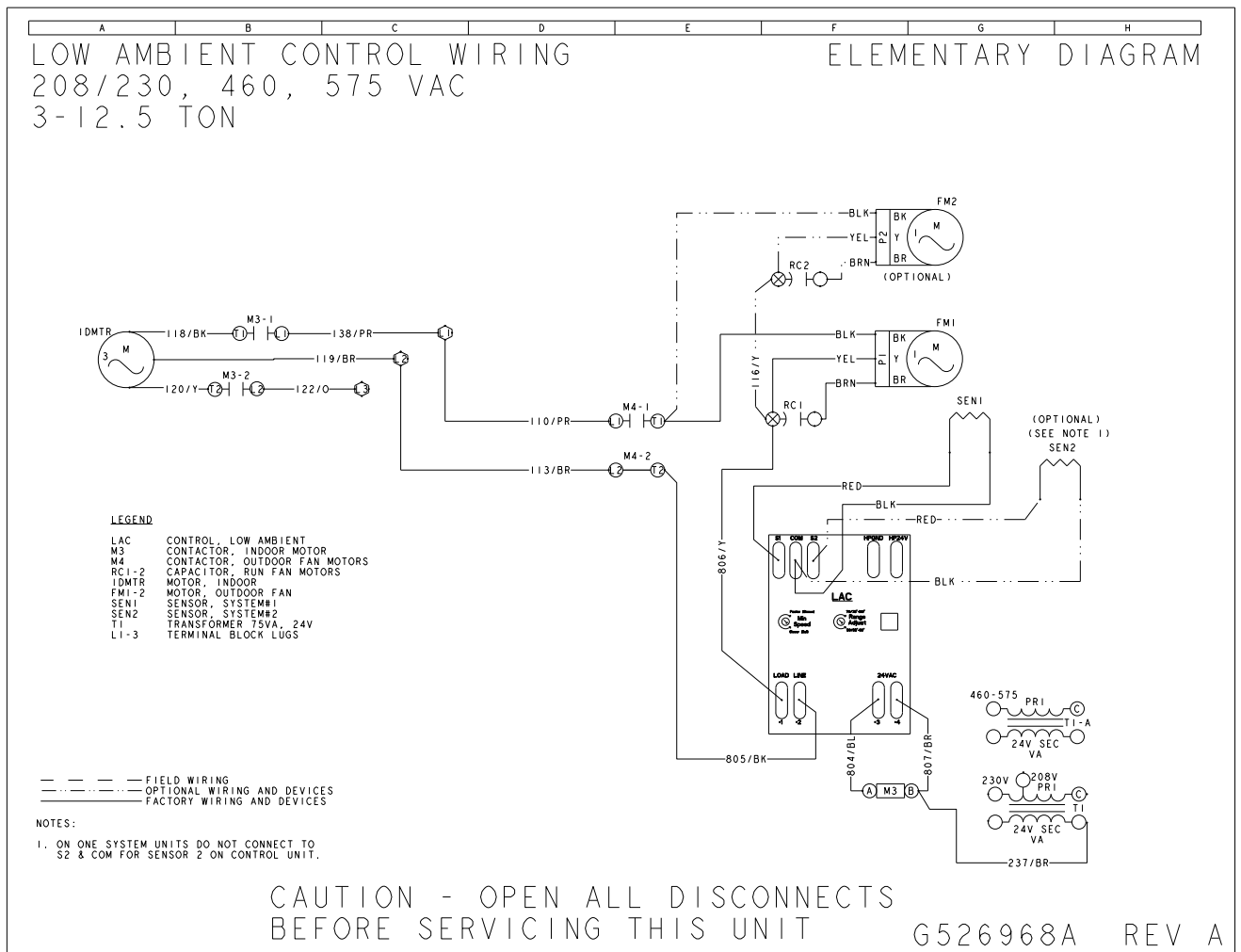
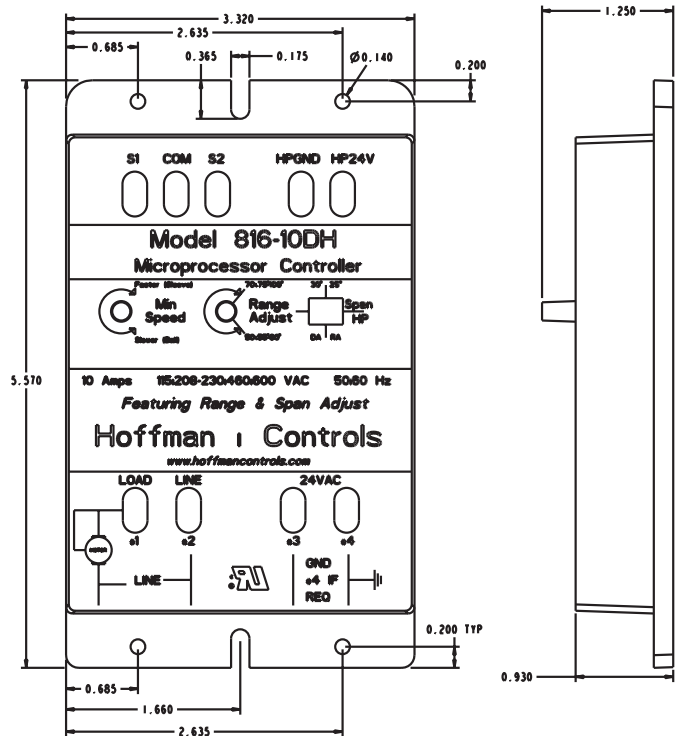


FIGURE 5 - TYPICAL CONTROL WIRING



NOTES:

VOLTAGE RANGE (NOMINAL) 115/208-230/460/600
 CURRENT 10 AMPS
 FREQUENCY 50/60 HZ

INPUTS:
 SENSOR-DUAL 10K OHM @ 77°F
 HEAT PUMP 24V AC

OUTPUT
 FAN MOTOR CONTROL - 1Ø
 115V-600V AC

ADJUSTMENTS
 MIN SPEED ADJUST BALL BEARING 200 RPM
 SLEEVE BEARING 400 RPM

RANGE ADJUST
 SPAN 30°F 50°-80°F THRU 70°-100°F
 SPAN 25°F 55°-80°F THRU 75°-100°F

HEAT PUMP MODE JUMPER
 DA - DIRECT ACTING
 RA - REVERSE ACTING

ENVIRONMENT
 OPERATING -30°F - +160°F
 UL FILE #SA5917

FIGURE 6 - LOW AMBIENT CONTROL