

Installation Instructions

MARS No. 10870 & 10874

Azure® Condenser Fan Motor

Product Description

These Azure® motors are high efficiency 5.5" HVAC condenser fan motors (ECM) suitable for 208-230V applications up to 1/2 HP. An internal microprocessor determines power output necessary for the load. They DO NOT require a capacitor. The Motor speed and direction are field adjustable by applying 115V to the motor using the enclosed programming cable. When 115V is applied, the motor will cycle through 4 options for speed and rotation. When the 115V power signal is removed, the motor will be set at the speed/rotation that it was running when the power was removed.

10870

Voltage: 208-230
Rotation: CW or CCW
RPM: 825/1075 RPM (single speed)
HP: 1/3 - 1/2
Capacitor: NOT REQUIRED
Orientation: Shaft Up/Down
Efficiency: 85% Peak

10874

Voltage: 208-230
Rotation: CW or CCW
RPM: 825/1075 RPM (single speed)
HP: 1/8 - 1/3
Capacitor: NOT REQUIRED
Orientation: Shaft Down
Efficiency: 85% Peak

IMPORTANT: Do not use Current (Amps) as a basis for determining motor efficiency. Due to a low Power Factor, EC motors can have the same Current draw as standard motors, yet their power consumption (Watts) is significantly less.



WARNING!

To prevent electric shock, personal injury, or death, turn off the electric power at the disconnect or main service panel prior to making any electrical connections.

Set-up / Installation:

Perform the following procedure BEFORE mounting the motor and BEFORE attaching the surge protector and fan blade.

- 1) Set the motor speed and rotation by connecting the programming cable (115V power cable with connectors and plug) directly to the motor harness as follows:
 - BLACK programming lead to BLACK motor power lead
 - WHITE programming lead to BROWN motor power lead
 - GREEN programming lead to GREEN/YELLOW motor ground lead
- 2) WITHOUT THE FAN ATTACHED, plug the programming cable into a 115V power source. The motor will cycle through 4 representative modes of operation over the period of approximately 90 seconds. When the motor cycles to the desired operating mode, remove the 115V power source. The internal microprocessor will set the selected speed and rotation. NOTE: In the event an error is made and the speed/rotation require changing, the programming procedure can be repeated and the program will be overridden.

(continued on back)



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(continued from front)

Determining The Operating Modes:

- A) 1075 RPM CWLE: Motor will spin fast in a CW Lead End rotation
 - B) 1075 RPM CCWLE: Motor will spin fast in a CCW Lead End rotation
 - C) 825 RPM CWLE: Motor will spin slowly in a CW Lead End rotation
 - D) 825 RPM CCWLE: Motor will spin slowly in a CCW Lead End rotation
- 3) Remove the programming cable and mount the motor and fan. Route the motor wire harness safely through the electrical conduit and into the electrical control box. NOTE: AFTER MOUNTING THE MOTOR, REMOVE THE 2 RUBBER DRAIN PLUGS ON WHICHEVER ENDPLATE IS LOCATED IN THE DOWNWARD POSITION. FOR EXAMPLE, IN SHAFT DOWN APPLICATIONS REMOVE THE DRAIN PLUGS IN THE SHAFT END OF THE MOTOR ENDPLATE.
 - 4) Connect the external surge protector to the motor wire harness (L1, L2, and Ground) and connect the wire harness termination piece to the surge protector (see diagram A). Make certain to match the colors of the leads.
 - 5) For condensers not using a defrost control board, connect the L1 and L2 motor leads (from the surge protector) directly to the switched power source (1 or 2 pole DP contactor). Connect the Ground lead to a suitable system ground. NOTE: THIS MOTOR DOES NOT REQUIRE THE USE OF A CAPACITOR AND HAS NO ADDITIONAL CONNECTIONS TO THE CAPACITOR.
- For condensers using a defrost control board (typically heat pumps), connect the L1 and L2 leads to the system just as the standard motor was connected (to the 1 or 2 pole DP contactor, first going through the defrost control board). Connect the Ground lead to a suitable system ground. NOTE: THIS MOTOR DOES NOT REQUIRE THE USE OF A CAPACITOR AND HAS NO ADDITIONAL CONNECTIONS TO THE CAPACITOR.
- 6) Test system operation.

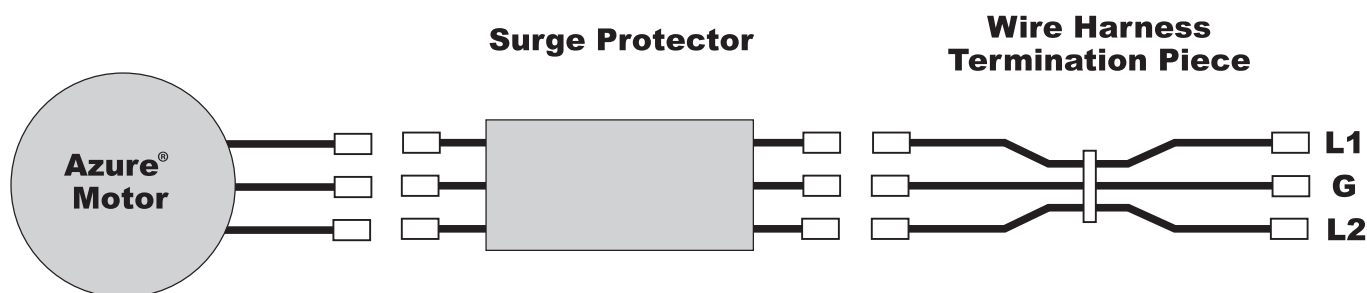


Diagram A