



ICM326HM2

Head Pressure Controls

with Optional Heat Pump Bypass



Wiring Reference Diagrams for MITSUBISHI ELECTRONICS

Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com



Helps prevent evaporator freeze-ups, liquid-slugged compressors, low pressure cutouts and overshoots common to on/off & pressure switch controls

ICM head pressure controls operate as temperature-sensitive motor fan speed controls. Head pressure is regulated during low ambient conditions by varying the amount of airflow through the condenser. This helps ensure efficient pressure across the expansion valve, preventing costly downtime and/or loss of valuable perishable goods.

Feature Highlights

- **Integral heat pump bypass circuitry** allows you to electronically bypass the speed control during heat pump operation
- **Solid state 10 amp load carrying capability**
- **Single unit controls up to 3 refrigerant circuits**
- **Multiple voltage ranges:** see specifications for details
- **Hard start:** adjustable from 1-5 seconds; provides full torque to the motor during startup to help ensure proper fan rotation and lubrication of bearings
- **Low speed cutoff** field adjustable; user may set the minimum RPM level at which the condenser fan should operate
- **High temperature bypass** applies full voltage to the condenser fan under normal conditions
- **Rugged, epoxy-encapsulated package** for greater reliability in harsh environmental conditions
- **Integral transformer** simplifies installation, reduces cost; direct setup from the line voltage

Applications

- **Ideal for “low ambient” conditions found in:**
 - Supermarkets, frozen food storage
 - Computer rooms, cooling tower fans
 - Temperature/humidity-sensitive environments

Specifications

Input/Output Voltage

- **Input/Output:** 120 or 208/240 VAC
- **Frequency:** 50/60 Hz
- **Power Consumption:** 4 VA @ 24 VAC

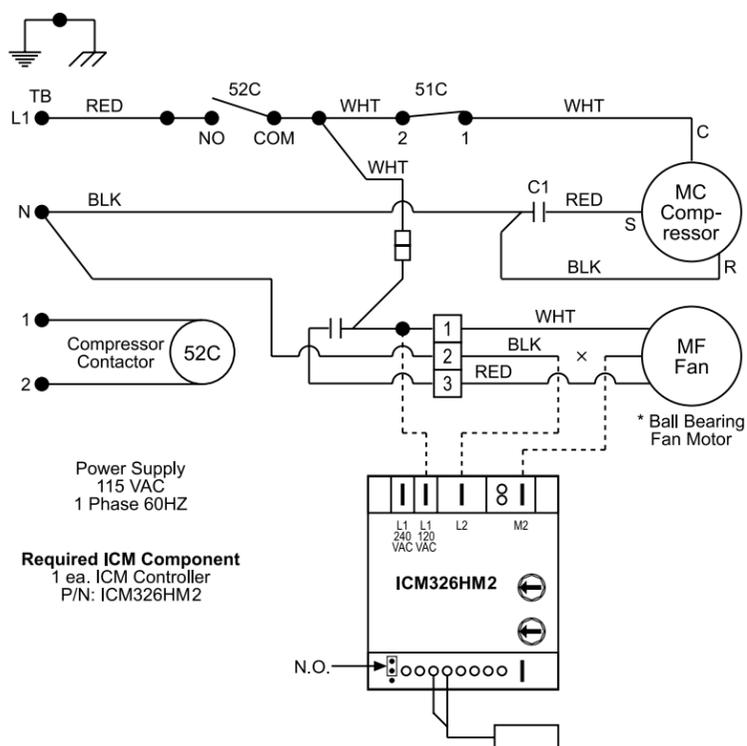
Output

- **Type:** Solid state
- **Form:** Triac
- **Output Current:** Maximum: 10 amps
Minimum: 100 mA
- **Frequency:** 50/60 Hz
- **Voltage Drop:** 3.0 volts maximum
- **Leakage Current:** 5 mA maximum

Protection

- **Dielectric Breakdown:** 2,500 volts minimum
- **Insulation Resistance:** 100 M
- **Operating Temperature:** -40°C to +75°C (-40°F to +167°F)
- **Storage Temperature:** -40°C to +85°C (-40°F to + 185°F)

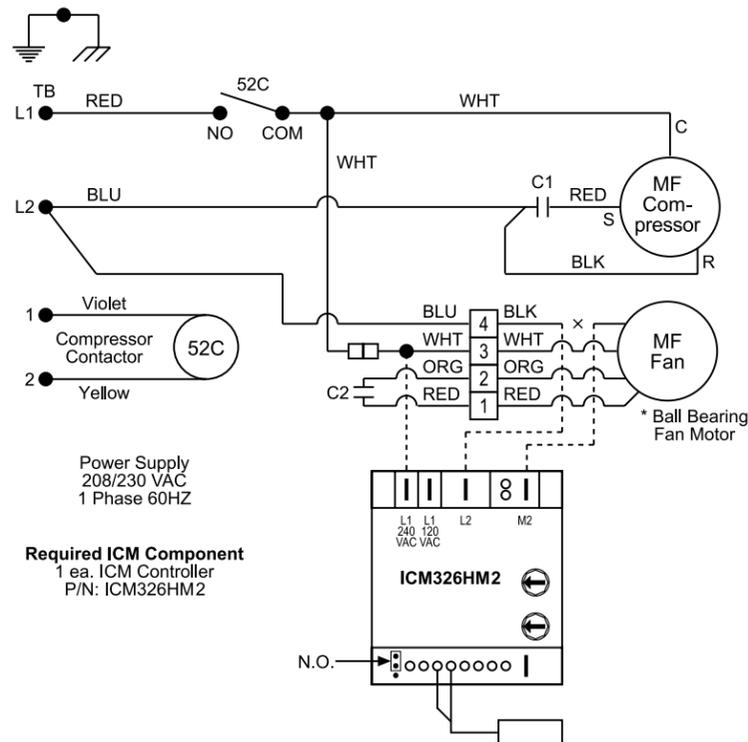
Model Wiring Diagram MU09TW



Installation of ICM controller on MU09TW units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller.
 5. Attach sensor to U-bend on upper 1/3 of the condenser.
 6. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

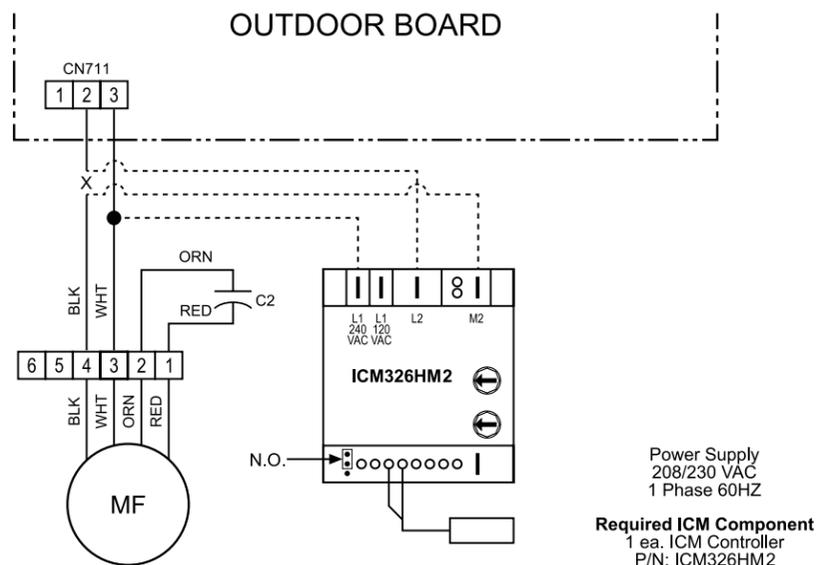
Model Wiring Diagram MU12TN, MU15TN, MU17TN



Installation of ICM controller on MU12TN, MU15TN and MU17TN units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller.
 5. Attach sensor to U-bend on upper 1/3 of the condenser.
 6. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

Model Wiring Diagram MU24WN

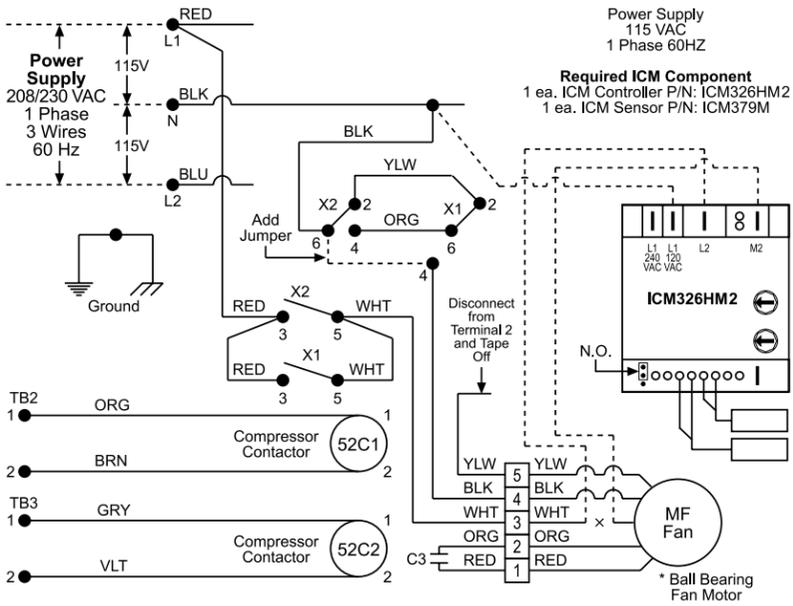


Installation of ICM controller on MU24WN units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller (240 VAC).
 5. Attach sensor to U-bend on upper 1/3 of the condenser.
 6. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

Model Wiring Diagram

MUM18NW



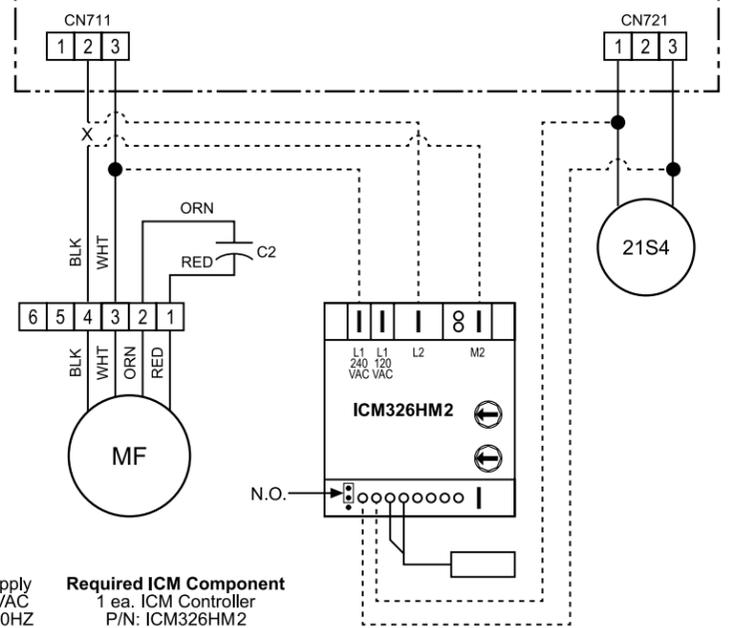
Installation of ICM controller on MUM18NW units

1. Break the WHT lead to the motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of controller.
 4. Field install wiring from the common neutral leg (BLK) to terminal Line 1 of the controller.
 5. Disconnect the YLW lead from terminal #2 of the X1 relay and tape off.
 6. Add jumper from terminal #6 of X2 relay to terminal #4 of X1 relay.
 7. Connect additional sensor (ICM P/N: ICM379M) for second refrigerant circuit.
 8. Sensors should be mounted on tubing between the outlet of condenser and the capillary tubes.
 9. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Units should be installed in areas with no prevailing winds.

Model Wiring Diagram

MUH24WN

OUTDOOR BOARD

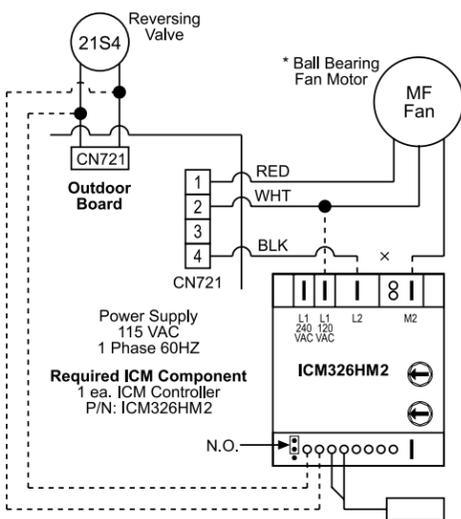


Installation of ICM controller on MUH24WN units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller (240 VAC).
 5. Field install wiring from the reversing valve solenoid coil wires (21S4) to the HP terminals of the controller.
 6. Set the heat pump select jumper to the N.O. position.
 7. Attach sensor to U-bend on upper 1/3 of the condenser.
 8. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

Model Wiring Diagram

MUH09TW

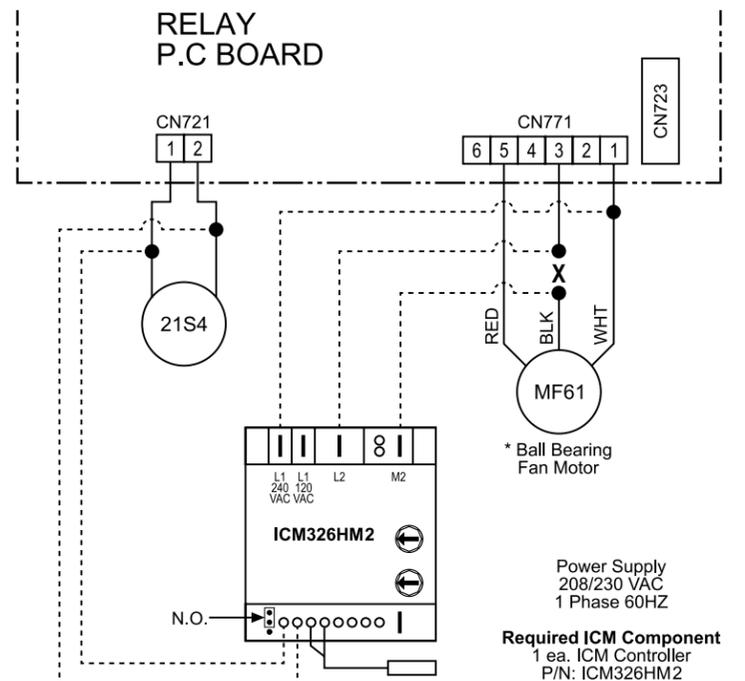


Installation of ICM controller on MUH09TW units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller.
 5. Field install wiring from the reversing valve solenoid coil (21S4) to the HP terminals of the controller.
 6. Set heat pump select jumper to the N.O. position.
 7. Attach sensor to U-bend on upper 1/3 of the condenser.
 8. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

Model Wiring Diagram

MUZ09UN and MUZ12UN

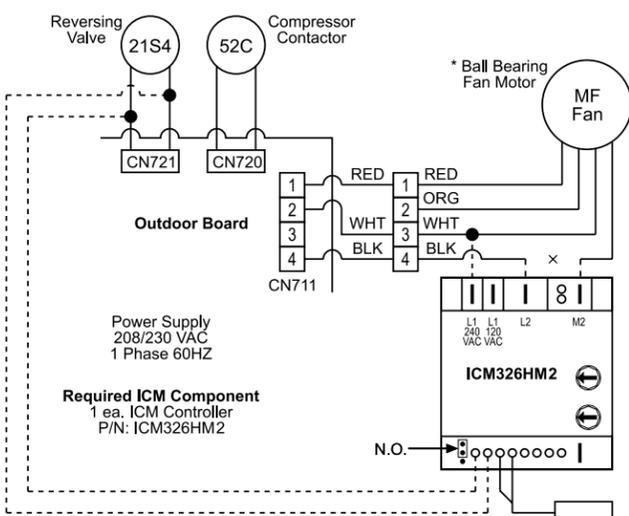


Installation of ICM controller on MUZ09UN and MUZ12UN units

1. Break the black lead to the condenser fan motor.
 2. Connect the line side coming from terminal #3 to Line 2 of the controller.
 3. Connect the load side from the fan motor to Motor 2 of the controller.
 4. Field install wiring from the white lead of the fan motor to the Line 1 (240 VAC) terminal of the controller.
 5. Field install wiring from the reversing valve solenoid coil (21S4) to the heat pump terminals of the controller.
 6. Set heat pump selector jumper to N.O. position.
 7. Attach sensor to u-bend on upper 1/3 of coil.
 8. Set up controller as per manufacture recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.

Model Wiring Diagram

MUH12TN, MUH15TN and MUH17TN



Installation of ICM controller on MUH12TN, MUH15TN and MUH17TN units

1. Break the BLK lead to the condenser fan motor.
 2. Connect the line side to terminal Line 2 of the controller.
 3. Connect the load side to terminal Motor 2 of the controller.
 4. Field install wiring from the WHT lead of the fan motor to terminal Line 1 of the controller.
 5. Field install wiring from the reversing valve solenoid coil (21S4) to the HP terminals of the controller.
 6. Set heat pump select jumper to the N.O. position.
 7. Attach sensor to U-bend on upper 1/3 of the condenser.
 8. Set up controller as per manufacturer's recommendations.*
- * It is recommended that a crankcase heater be field installed on units used in low ambient applications. Unit should be installed in areas with no prevailing winds.



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