HIGH EFFICIENCY SERIES

MINI-SPLIT

DUAL – TRI - QUAD ZONE

INSTALLATION MANUAL

FOR THERMAL ZONE MODELS

MZG409HP16230EA	**Evaporator**
MZG412HP16230EA	**Evaporator**
MZG418HP16230EA	**Evaporator**
MZG434HP16230CA	**Condenser**
MZG424HP16230CA	**Condenser**

FOR SEA BREEZE MODELS

9MH46ZIGX	**Evaporator**
12MH46ZIGX	**Evaporator**
18MH46ZIGX	**Evaporator**
34MH46ZOGX	**Condenser**
24MH46ZOGX	**Condenser**

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Do not dispose this product as unsorted municipal waste. Collection of such waste for special treatment is necessary.

Installation Steps:

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- **Hang the indoor units. (page 9)**
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NOTES TO INSTALLER

This manual is to aid the qualified HVAC contractor in the installation of this Mini Split system.
Report all shipping damage to the carrier IMMEDIATELY. Check units and box exterior for damage.
Please read and understand these instructions prior to installing the unit, failure to comply with these instructions may result in improper installation, operation and maintenance, possibly resulting in fire, electrical shock, property damage, personal injury or death.

CAUTION! Do not use old refrigerant lines with new installation:
For connecting pipes use new and clean piping materials with high pressure fittings made for R410A only. This air conditioner adopts the new HFC refrigerant (R410A) which does not destroy ozone layer. R410A refrigerant operates at approximately 1.6 times the pressure of refrigerant R22. Accompanied with the adoption of the new refrigerant, the refrigeration lubricating oil has also been changed. During installation be sure that water, dust or foreign material does not enter into the new system. The system must not be left open to the atmosphere for any reason for any period of time as the systems oil quickly absorbs moisture and will contaminate and damage the system. To prevent mixing of refrigerant or refrigeration lubricating oil, the sizes of connecting sections of charging port on main unit and installation tools are different from those used for the conventional refrigerant units. Accordingly, special tools are required for the new refrigerant (R410A) units. The best and recommended solution is - do not use the existing line sets because there may be some problems with pressure fittings and possible impurities in the existing piping.
When installing this unit, an electrical surge suppressor is recommended.
Installers please pass this manual and warranty registration to end user. If technical assistance is required during installation or start up, please call 704-504-8590 (M-F 8:00 am to 4:30 pm ET) to speak to a Technical Service Engineer. Before calling please have the Model and Serial numbers available.

Safety Instructions:

1. Carefully read all instructions prior to installation.
2. Check Rating Plate for correct system voltage before installing the unit. Installing and operating a unit with the incorrect voltage may result in malfunction or other issues and will void the warranty.
3. Units must be connected to a correctly grounded electrical supply.
4. Do not use the units if they have been dropped or otherwise damaged or installed incorrectly.

The manufacturer of the unit will not be liable for any damages caused by failure to comply with the installation and operating instructions in this manual.

The unit rating plate contains pertinent information for unit operation; please refer to it as required.

Inspect all parts for damage prior to installation and start up. Units must be installed by a qualified HVAC contractor.

PARTS INCLUDED WITH UNIT

Indoor unit	Outdoor Unit
● Wall Bracket	● Drain Fitting
● Remote Control	● Installation Manual
● Batteries for Remote Control (2 AAA)	
● Remote Control Holder	
• Adapter - Dual Zone requires 1/2"F to 3/8”M (9510198) with 9K indoor unit. Quad Zone requires 3/8”F to 1/2"M (9510197) with 18K and/or 12K indoor unit(s).	
• Drain Tubing 5 ft.	
● Operation Manual	

INSTALLER SUPPLIED PARTS

The following additional Items are required for proper installation.

- Refrigerant line set: Insulated copper tubing:
  - 9K Indoor – 1/4” (liquid line) and 3/8” (suction line).
  - 12K Indoor – 1/4” (liquid line) and 1/2” (suction line).
  - 18K Indoor – 1/4” (liquid line) and 1/2” (suction line).
- Flare nuts 2 ea. required per line, see above (line set) for size.
- Vinyl UV resistant tape.
- Supply Power:

  Dual Zone
  - 25 amp circuit breaker, #10 AWG copper wire from outdoor unit to power disconnect (MZG424HP16230CA, 24MH46ZOGX)

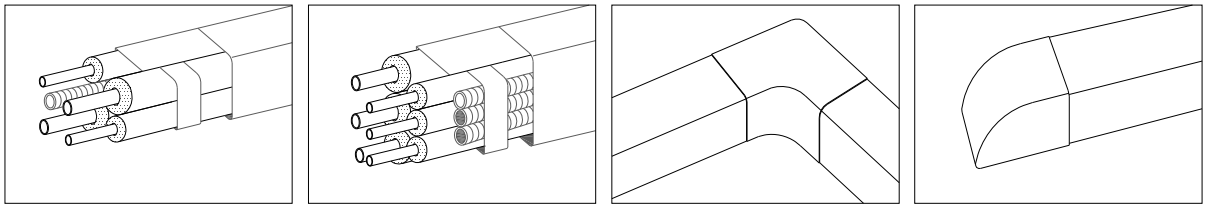
  Quad Zone
  - 40 amp circuit breaker, #8 AWG copper wire from outdoor unit to power disconnect (MZG434HP16230CA, 34MH46ZOGX)
- Interconnect wire cable:
  - Dual Zone: 4C 16 AWG per indoor unit.
  - Quad Zone: 4C 16 AWG per indoor unit.
- Refrigerant - R410A required for additional line set charge.
- Sealing putty.
- 1/4” to 5/16” access fitting adaptor (PN: QC-S5)
- Mounting hardware - Wall anchors, condenser pad etc.
- Optional: Condensate pump, miniature, 115 VAC P/N DE05LUA520 (4100122).
  Condensate pump, miniature, 230 VAC P/N DE05LUA720 (4100123).
  Condensate pump, accessory kit P/N GC1KFX2010 (4100124).
  Surge protector (highly recommended)

Note: Condensate pump P/N 77B2033 (4100123) **can not** be connected to the indoor unit. Power connections must be made at outdoor unit supply power.

Main system breaker or disconnect sized per unit requirements should be mounted adjacent to outdoor unit.

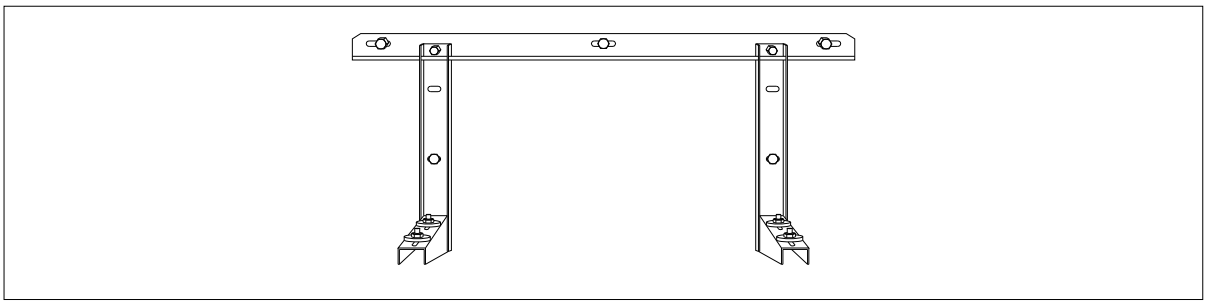
Decorative Channel

Route the bundled piping and wiring to the outdoor unit and connect per the OUTDOOR UNIT installation instructions. Our **Plastic-Duct** piping and wiring duct work provides a convenient and professional looking system to route and protect the pipes and wires. Please see the illustrations below:



Wall Bracket

The outdoor unit may be mounted using a wall bracket (optional) (Our Catalog # BR-440L for up to 440 lbs), or located in a freestanding position on the floor or pad (preferably slightly elevated).



INSTALLATION CONSIDERATIONS

General Information

Application

Check the application of the unit prior to installation. Certain applications require additional components or installation parameters.

Computer or Data Server Rooms

These require approximately 12,000 BTU/H capacities per 250 ft² of room size (Based on 8' ceiling height).

Offices and Commercial Spaces, Churches etc.

These require approximately 12,000 BTU/H capacity per 400 ft² of room size (Based on 8' ceiling height).

Residential, Bedrooms, Family Rooms etc.

These require approximately 12,000 BTU/H capacity per 600 ft² of room size (Based on 8' ceiling height).

Note: This system does not contain a back-up heat source and is NOT recommended as a primary source of heat.

System Configuration Options

Quad Zone
MZG434HP16230CA, 34MH46ZOGX (2 to 4 indoor units)
Note: 1. Do not mismatch or connect to an outdoor unit other than the designed matched system.
2. This system **must** be used with a minimum of **two indoor units** (evaporators).

2 INDOOR UNITS	3 INDOOR UNITS	4 INDOOR UNITS
9K + 9K 9K + 12K 12K + 12K 9K + 18K 12K + 18K	9K + 9K + 9K 9K + 9K + 12K 9K + 12K + 12K 9K + 9K + 18K	9K + 9K + 9K + 9K
		The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.
The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.	The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.	9K + 9K + 9K + 12K 9K + 9K + 9K + 18K 9K + 9K + 12K + 12K
18K + 18K	9K + 12K + 18K 12K +12K + 12K 12K + 12K + 18K	

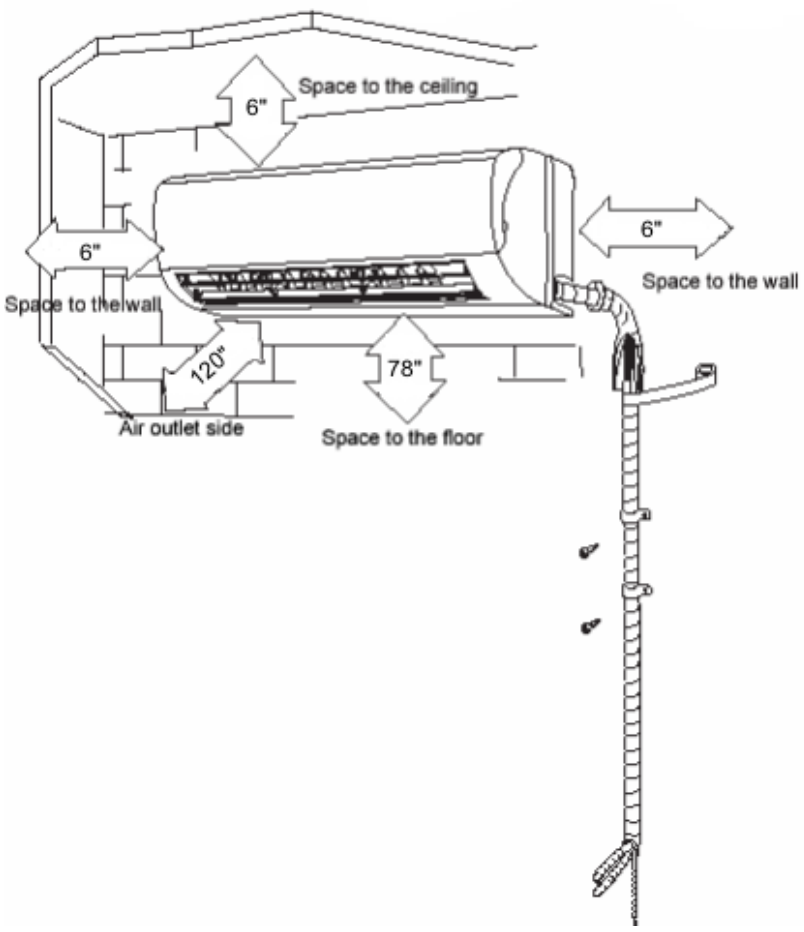
Dual Zone
MZG424HP16230CA, 24MH46ZOGX (2 indoor units)
Note: 1.Do not mismatch or connect to an outdoor unit other than the designed matched system.
2. This system **must** be used with **two indoor units** (evaporators).

2 INDOOR UNITS
9K + 9K
9K + 12k
12K + 12K

Indoor Models Available:
9K Indoor model(s) MZG409HP16230EA, 9MH46ZIGX.
12K Indoor model(s) MZG412HP16230EA, 12MH46ZIGX.
18K Indoor model(s) MZG418HP16230EA, 18MH46ZIGX.

Selecting locations for the Indoor unit

1. Determine the best location for mounting the Indoor unit. Ensure the dimensions requirement indicated be the arrows are followed.
2. Paying close attention to the air circulation in the room, these units throw air approximately 15ft. Ensure that no obstacles impede airflow.
3. Do not mount this unit close to a heat source or a doorway.



Selecting location for Outdoor unit

1. Determine the best location for mounting the outdoor unit. Ensure the dimensions requirement indicated be the arrows are followed.
2. Do not mount this unit close to combustibles or heat sources.
3. Although this unit is fairly quiet when in operation, do not mount where noise issues could be a problem.

Line set length

Locate the Indoor and Outdoor units as close together as possible. Line set height cannot exceed specifications.
Installation Notes:

1. The maximum total line set length must not exceed 229 feet for all units using the 34K condenser (Quad). The maximum total line set length for the 24K condenser (Dual) is 65.6 feet.
2. Quad Zone models MZG434HP16230CA, 34MH46ZOGX are designed to have two to four indoor units. Dual Zone models MZG424HP16230CA, 24MH46ZOGX are designed to run with 2 indoor units. DO NOT use either of these systems with one indoor unit.
3. The Quad Zone max design length is 131 ft. for the total of all indoor units. The maximum total line set length for all units is 229 ft. Refrigerant must be added when line set total length exceeds 131 ft.
4. The Dual Zone max design length is 49.2 ft. for the total of all indoor units. The maximum total line set length for all units is 65.6 ft. Refrigerant must be added when line set total length exceeds 49.2 ft. (see spec. sheet).

NOTE: A**n oil trap is recommended if the indoor unit is over 19 feet in height from the outdoor unit.**

INDOOR UNIT (EVAPORATOR) INSTALLATION

1. Clearances and Mounting requirements (Indoor Unit)

Enough space should be left around the unit to facilitate maintenance. Please view Figure. 1 for recommended dimensions:

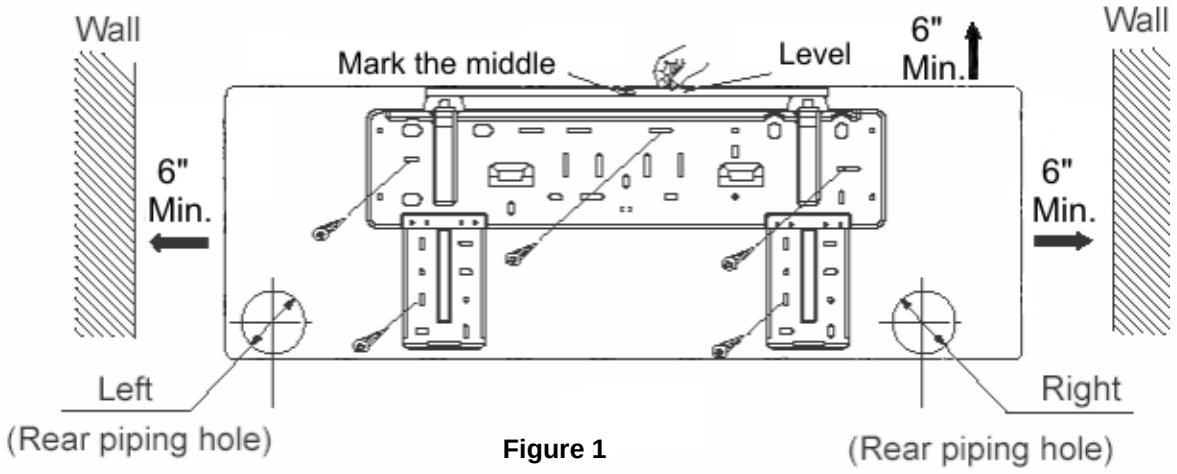


Figure 1

Minimum clearances as noted above. Mount indoor unit with a minimum 6” to ceiling. Indoor unit should have approximately 16 feet of unobstructed area directly in front for proper air flow for the 9K and 12K indoor units. The 18K should have approximately 25 feet of unobstructed area directly in front. Line set can exit at the right or left rear or ends of the indoor unit.

Be sure that the indoor unit is mounted firmly to the wall, and that the wall structure will support the weight of the unit.
Be sure that the air inlet and outlets are unobstructed.
Be sure that all clearances are as noted in the above Figure 1.
This unit is not designed to be connected to a plug-in outlet.

Do not install this unit:

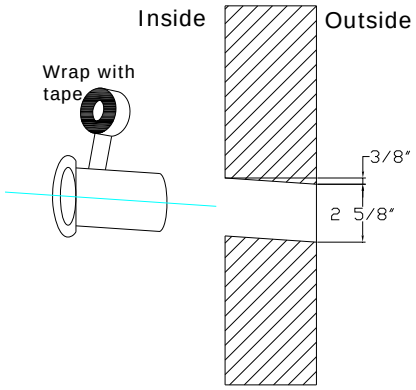
- Near a heat source
- In direct sunlight
- In areas where hazardous chemicals are present
- Near combustible gases

2. Mounting the Wall Plate

After determining an acceptable location for the indoor unit, fasten the wall bracket securely to the wall using the proper anchors (installer supplied). Be sure the wall bracket is level and firm to the wall using a minimum of 4 screws or wall anchors. Failure to mount the wall bracket level can result in improper condensation drainage.

3. Wall Penetration

Using the measurements in Figure 1, determine the exit point of the line set. For best results, the right rear is preferred. Left rear exit of the line set requires that the line set be connected to the indoor unit prior to mounting it to the wall plate. If desired the line set may run along the inside wall by removing the cutouts along the back edge of the case. Line sets mounted along the inside wall may be covered with Plasti-Duct line set covering (See page 5).



Cut a 2-5/8" hole slanted downward towards the outside.
Hole diameter is based on wall sleeve made from 2-1/2" PVC pipe. Wall penetration should be slanted slightly downward to the outside a minimum of 3/8" to provide proper condensation drainage.

Wall sleeve can now be inserted into the hole. Insert sleeve from the inside to the outside. The sleeve should be approximately 3/16" longer than the wall thickness.

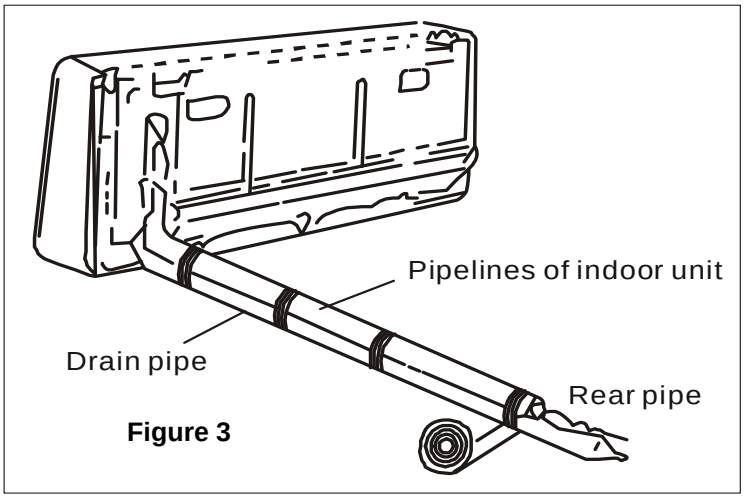


Figure 3

4. Identify Line Sets

Mark the line sets as necessary to prevent crossed connections. Crossed line sets will prevent proper operation.

5. Mounting the Indoor Unit

If right rear exit of line set is used the indoor unit can now be mounted. Remove retaining clips from back of unit to allow access to the line set stubs. Gently form the line set stubs straight outward. Use caution when forming the line set; being careful not to kink the copper lines. See Figure 3.

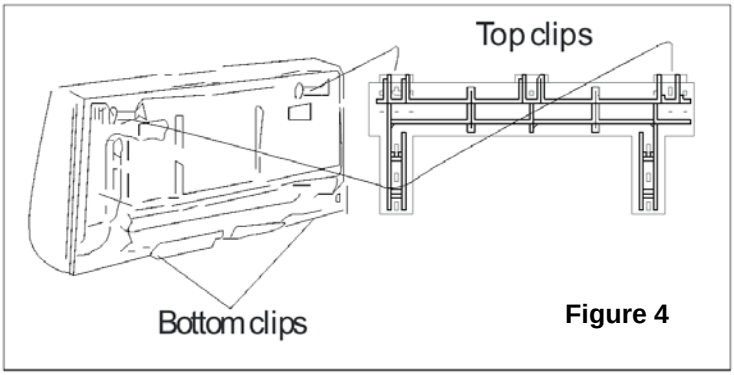


Figure 4

6. Connecting Line Set

If installer determines the line set should be connected at this time, see page 11 for torque standards.

7. Hang the Indoor Units

Once lines are straight, carefully slide the ends of line set out through the wall sleeve. Hook the indoor unit onto the top clips of the wall plate. Carefully lower the bottom portion of the indoor unit towards the wall, snapping it into the clips at the bottom of the unit. See Figure 4.

If using the left rear exit run lines from outside to indoor unit. Form line set to mate to indoor unit stubs and connect prior to mounting to indoor unit. If necessary run lines along inside wall and carefully remove the proper cut out from the indoor unit housing. Line sets may be covered with Plasti-Duct for a more professional job (see page 5).

8. Inspect the Installation
Ensure that the hooks at the top and bottom of the inside unit are firmly locked in place.

9. Verify the Indoor Unit is Properly Leveled.
Accurate leveling is critical to prevent water damage during operation.

10. Check the Drain Hose
Observe that the condensate drain pipe does not curve upward and is in the lower part of the pipe bundle. See Figure 5.

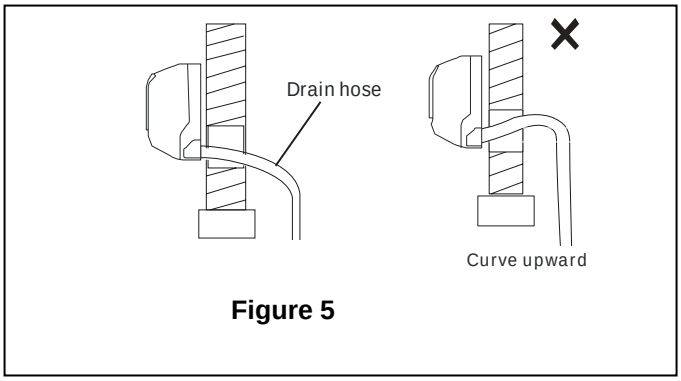


Figure 5

11. Seal the Hole
Fill the gap between the wall sleeve and the line set with sealing putty (installer provided) to prevent outside air and moisture from entering room (see Figure 6).

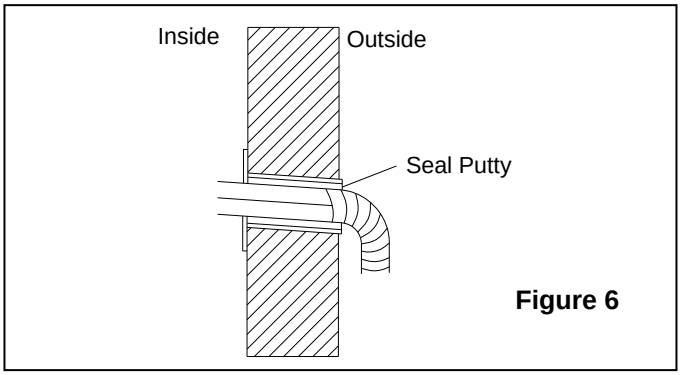


Figure 6

OUTDOOR UNIT (CONDENSER) INSTALLATION

The location must allow easy servicing and provide good air circulation as shown in the illustration below:

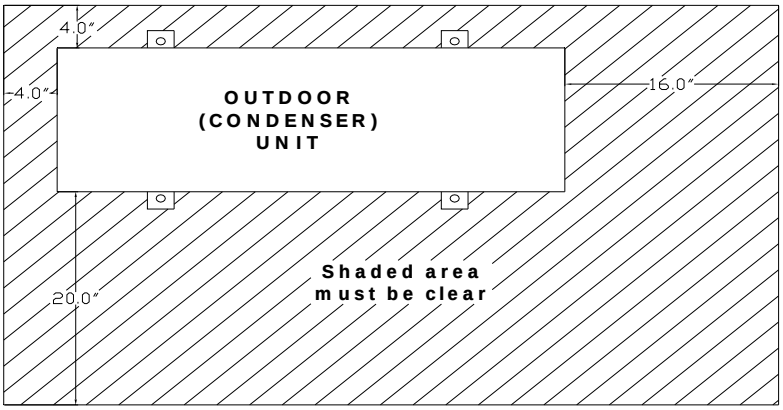


Figure 7 (Top View)

Mounting the Outdoor (condenser) Unit

Follow the clearance guidelines in the diagram above. Clearance distances are minimums. Minimum clearance above unit is 12" to allow for servicing.

Install drain plug as in Figure 7a (included). Drain hose not included.

Do not mount this unit close to combustibles or heat sources.

Although this unit is fairly quiet when in operation, do not mount this unit where noise issues could be a problem.

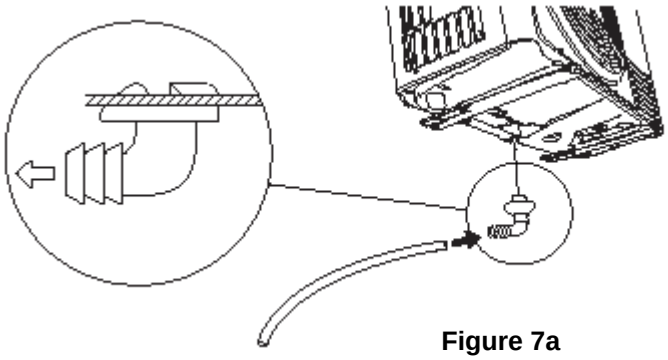


Figure 7a

Mount unit on an equipment pad or solid surface, install drain plug and tube as necessary. If wall mounting is necessary a wall mount bracket may be purchased (BR-440L) for this purpose. Follow mounting instructions for bracket to ensure safe installation.

Anchor bolts of the proper size and type (Installer provided) must be used.

For best results mount this unit as close as possible to the evaporators. Check maximum line length specifications before mounting.

MAXIMUM LINE LENGTH MUST NOT BE EXCEEDED!

CONNECTING LINE SET

CAUTION! IMPROPER CONNECTION OF THE LINE SETS WILL RESULT IN IMPROPER OPERATION OF THE SYSTEM. MARK EACH LINE SET AND WIRING FOR IDENTIFICATION. ENSURE THAT THE WIRING AND THE LINE SETS ARE ROUTED TO THE PROPER INDOOR ZONE.

The Dual Zone uses a 1/2"F to 3/8”M adaptor for the 9K unit. The Quad Zone uses a 3/8”F to 1/2"M adaptor for 18K and 12K units. (see figure 8)

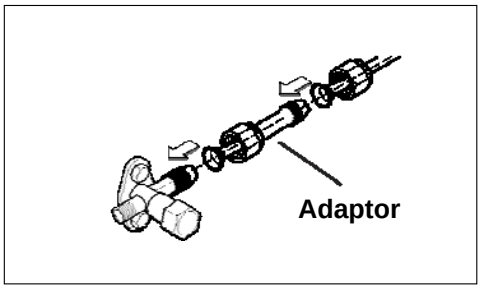


Figure 8

Refrigerant Tubing

1. After the outside unit is secured to the mounting location (Pad, Wall Brackets, etc.), route the line set(s) from the Indoor unit to the outdoor unit, and secure with clamps or Plastic-Duct as required.

Installation Notes:

- The MZG434HP16230CA and 34MH46ZOGX Quad Zone units are designed to run two, three, or four indoor units. DO NOT use this system with one indoor unit. (See page 6)
- The MZG424HP16230CA and 24MH46ZOGX Dual Zone units are designed to run two indoor units. DO NOT use this system with one indoor unit. (See page 6)
- The outdoor unit is supplied with a sufficient refrigerant charge of R410A for a maximum Design Length, no extra refrigerant required. Beyond this length additional refrigerant is required and must be weighted in. (see specifications)

Indoor unit contains a small quantity of nitrogen. DO NOT remove the caps until the tubing is ready to be installed.

NOTE: An oil trap is recommended to be installed if the indoor unit is over 19 feet in height from the outdoor unit. To prevent kinking, bend tubes using a tubing tool.

CAUTION! WHEN REMOVING THE VALVE CAPS, DO NOT STAND IN FRONT OF VALVES, AS THE SYSTEM IS UNDER HIGH PRESSURE.

2. Line set can now be terminated (if necessary), to the proper length. Cut the tubing a little longer than measured distance. Completely remove all burrs from the cross cut section of tubing. Do not allow debris to fall into copper tube. It is extremely important to clean the copper tubing prior to connecting to system.

3. Install flare nuts and follow standard flaring procedures. Use proper flaring tools for a leakproof connection. If a flared section is defective, cut it off and follow standard flaring procedures again.

4. After cutting to length, creating the flares and before connecting the line set, clear all foreign materials by blowing nitrogen through copper tubing. Align the center of the tubing flare with its mating connector. Screw on the flare nut by hand and tighten the nut with a spanner and torque wrench. See Figure 10.

Note: Exceeding the tightening torque will damage the flare surface.

Tightening Torque Table:

Tightening Torque Table					
1/4"	11-15 ft. lbs	3/8"	23-26 ft. lbs	1/2"	37-41 ft. lbs

Figure 9

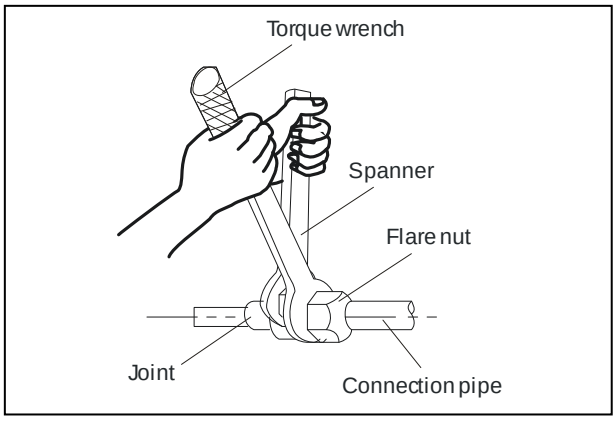


Figure 10

5. Verify that the proper line set is being connected to the intended port of the outdoor unit. Connect the line sets to their appropriate fittings on the outside unit, and torque the flare fittings per the table above.

   DO NOT CROSS WIRES OR CROSS CONNECT SYSTEMS TO OUTDOOR UNIT.

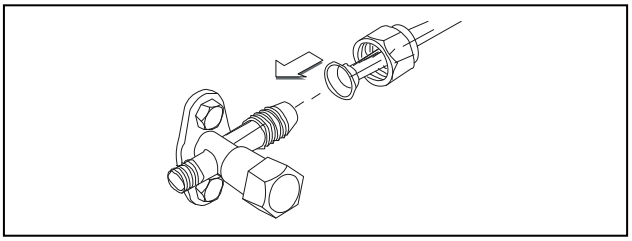


Figure 11

6. Bundle all lines, control cables and condensation drain together. Be sure to leave ample length on control cable to allow for termination. Bundle can be secured together using vinyl tape.

   Note: Condensation drain MUST be placed at the bottom of the bundle as shown in the Figure 12. Failure to do so may cause evaporator to drain improperly.

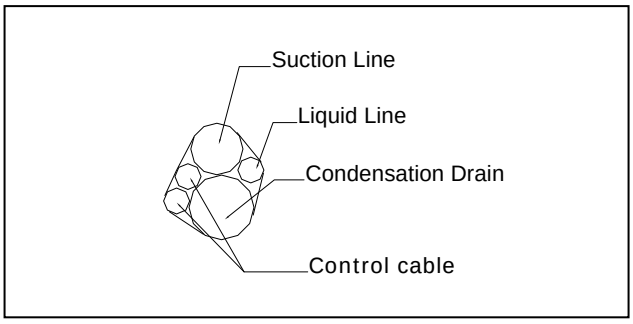


Figure 12

7. Line sets must have each tube insulated separately, including their unions with at least 1/4" thick insulation. Wrap the refrigeration tubing, drain hose, and electrical cables with a UV protected vinyl tape. Overlap insulation at all refrigeration joints per Figure 13.

   Note: Completely wrap line set with insulation. Insulation joints may overlap if desired.

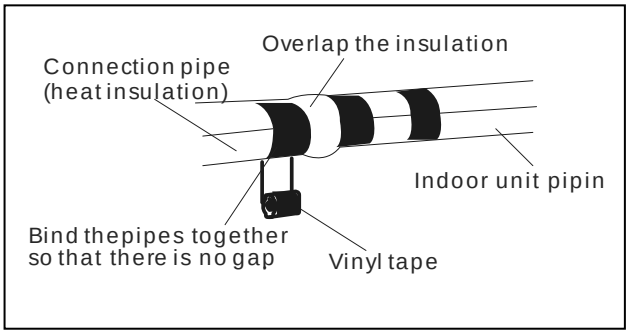


Figure 13

CAUTION! Failure to completely wrap both lines with insulation may result in damage from condensation forming on lines, and dripping onto walls, ceilings, etc.

ELECTRICAL CONNECTION

WARNING! Improper wiring between the inside units and the outside unit can cause serious damage to the system, and the risk of personal injury or fire. Use caution when connecting the wiring to insure that the wires are connected properly!

NOTES:

- Electrical wiring and connections should be made by qualified electricians in accordance with National and Local electrical codes and regulations.
- Proper grounding is a **must**.
- Voltage should not vary beyond +/- 10% of the rated voltage.
- See the specifications page for proper wire sizes and circuit breaker sizes.
- Connect the control cables according to the diagrams on page 14.
- Make power connections per diagram on page 14.
- Remove the handle on the right side of the outdoor unit.
- Remove panel on the right front.
- Remove the cable clamp and connect the power connection cable to the terminal.
- Wiring should be terminal to terminal and to correct indoor unit. Do not cross wires!
- Reattach the cable clamp.
- Reinstall the handle.

Connect the Cable to the Outdoor Unit

For models: MZG434HP16230CA, MZC424HP14240CA, 34MH46ZOGX, and 24MH44ZOCX.

1. Remove cable knock-outs (A water tight cable strain relief or conduit is recommended here).
2. Unscrew two screws to remove side panel.
3. Feed cable wire through knock-out holes.
4. Connect the wires to the terminals. (See wiring diagram Figure 15).
5. Replace side panel with the screws.
6. Secure wire cables.

Typical Electrical Wiring for Quad Unit (Dual Zone connection will not use units “C” and “D” connections.)

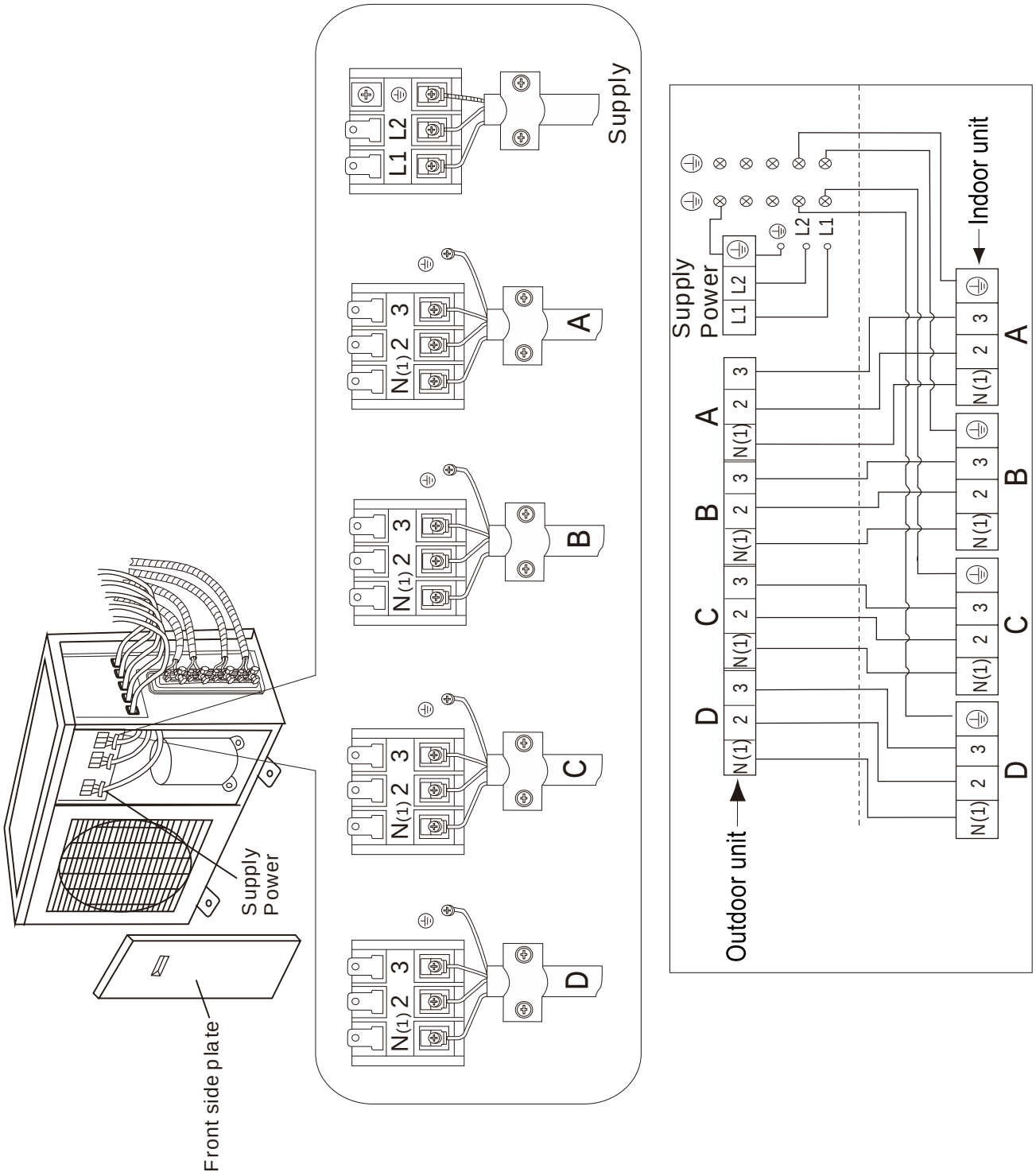


Figure 15

Electrical connection of the indoor unit

Open the front cover by pressing inward on the sides of the cover near the bottom to release, then pull bottom of cover outwards.

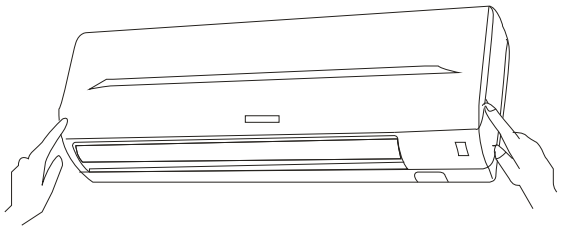


Figure 16

Feed the cable wire in from the rear of unit.

Open the electric box cover; connect the wires to the terminal strip individually according to the wiring diagram above. Ensure that the colors of the wires and terminal No. are the same as the wiring diagram. Tighten terminal screws for safe connections.

DO NOT CROSS WIRES

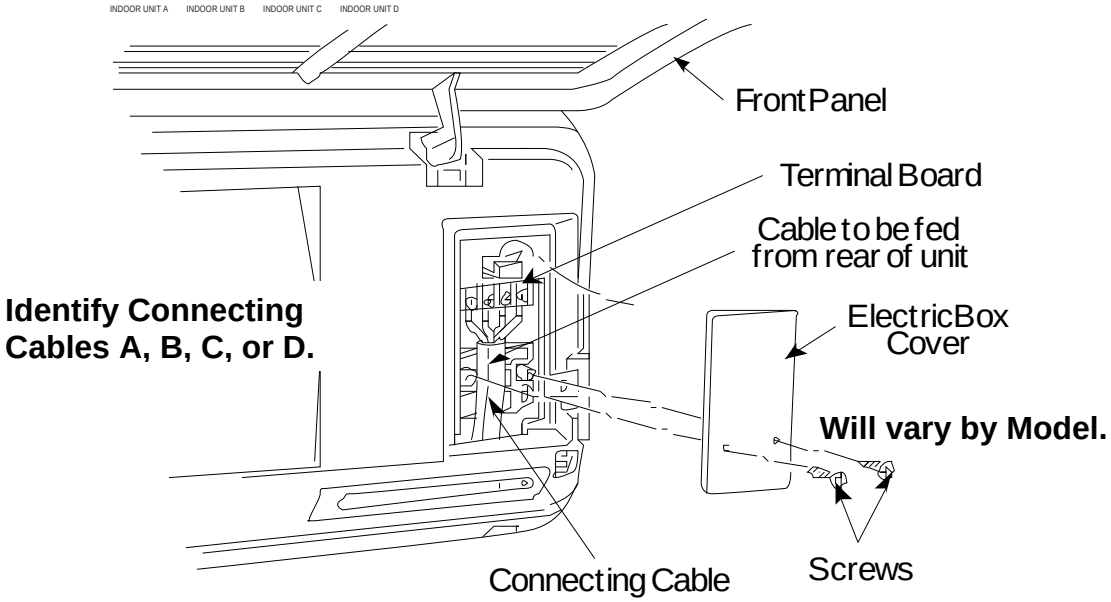


Figure 17

After wiring, replace the electric box cover, and then close the front panel by pressing the corners inward to latch.

Typical outdoor installation.

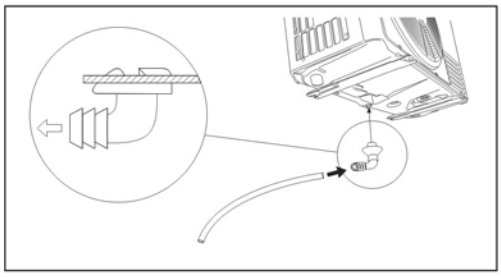


Figure 18a

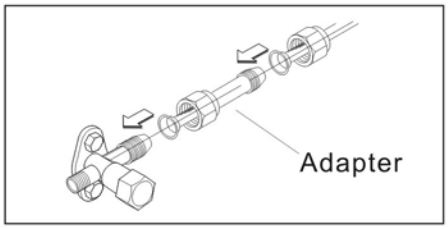


Figure 18b

Figure 18c

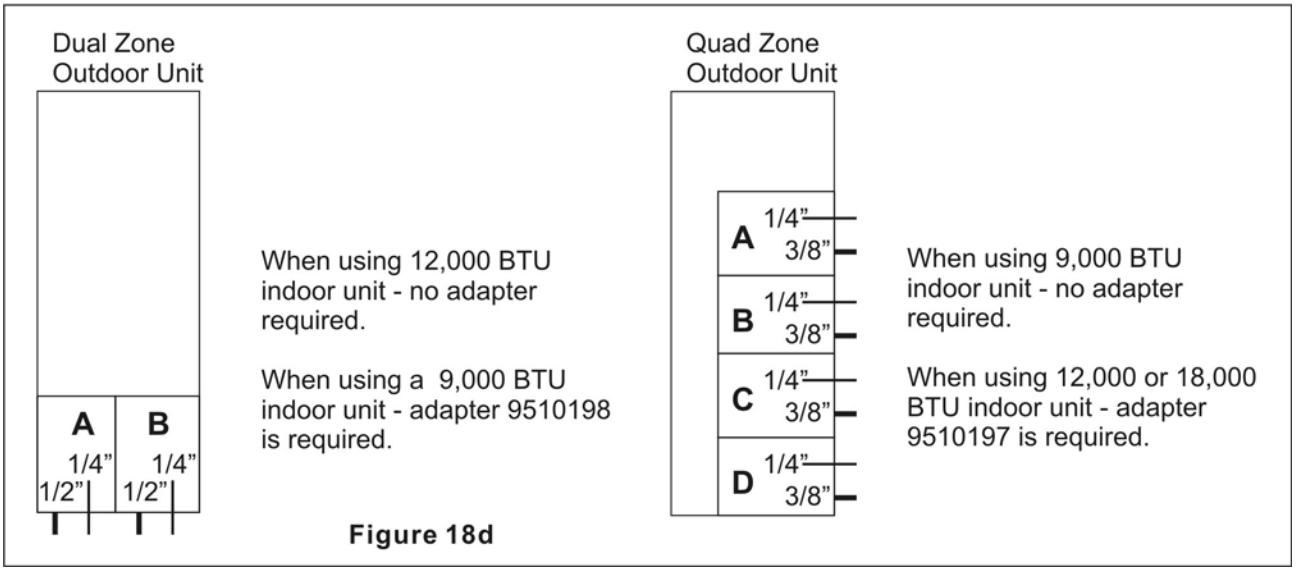


Figure 18d

EVACUATION OF THE REFRIGERATION TUBES AND INDOOR UNIT

After connecting the indoor and outdoor units, evacuate the air from the line set and the indoor unit as follows:

Leak Testing

1. Connect the charging hoses to the low side of the manifold and the service port of the suction valve (See figure 20b).

2. Connect the center hose of the manifold valve to a nitrogen source.

NOTE: The nitrogen gas cylinder is used in a vertical standing position.

3. Charge system with nitrogen to 150 PSI and check for leaks, using industry leak detection methods.

4. Remove the nitrogen by opening the manifold valves.

Perform previous steps 1 to 4 on all indoor units. (See figure 20)

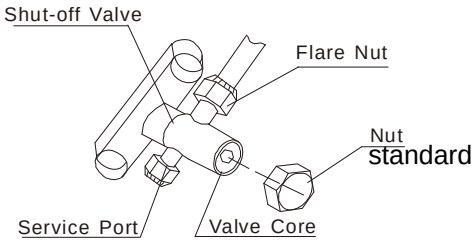


Fig. 19

Vacuum Purge

1. Connect the center hose of the manifold valves to a vacuum pump, and open fully the low and high pressure sides of the manifold valves.

DO NOT OPEN SERVICE PORT VALVES

2. Turn on the vacuum pump. Evacuate system for about 30 minutes and confirm that the vacuum reading is 500 microns.

3. Close all manifold valves and turn off the vacuum pump. After waiting for several minutes, confirm that the vacuum reading of the manifold has not changed. If the vacuum reading has changed, there is a leak that must be found and repaired before continuing.

Perform previous steps 1 to 3 on all indoor units. Then proceed with the next step (4).

4. Remove the valve caps from all valves. Slowly open each liquid line fully using a hexagonal Allen wrench. Use the same procedure on the suction valve.

5. Securely tighten the caps back onto liquid and suction the valves.

6. Check for gas leaks from all connections. Test with an electronic leak detector, or with soapy water and check for bubbles. Be sure to wipe off the soap with a clean cloth after leakage test.

SUCTION PORT CONNECTIONS
Use these ports for connection to each of the linesets.
Each line set / evaporator assembly must be prepared separately.

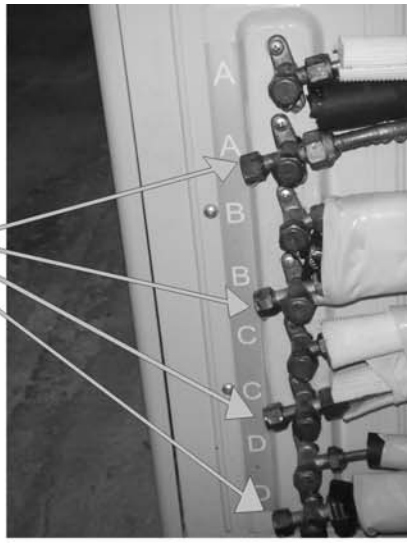


Figure 20a

Loosen the liquid side flare fitting slightly to allow nitrogen purge.

Connect the manifold set to each suction port.

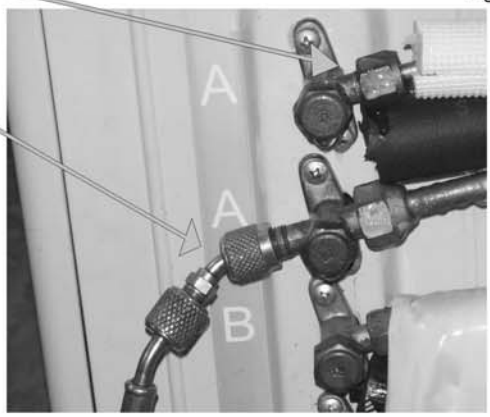


Figure 20b

Figure 20c

Nitrogen bottle connected for purge of unit A.
Purge @ 150 PSI for 1-2 minutes.

Re-tighten flare fitting. Remove nitrogen tank from manifold and replace with vacuum pump.

Vacuum to 500 microns for 30 minutes. Repeat the above steps for each connected indoor unit.

Figure 20d

Once the vacuum operation has been performed on Unit A, open the valves slowly to allow the flow of refrigerant. Once the refrigerant flow cannot be heard, open both valves completely. These valves must be opened completely in order to prevent leaks. Replace caps on service ports and valves as added protection against leaks.

Repeat for each connected indoor unit.

START UP TESTING

Preparation

1. Double check that all wiring has been properly connected.
2. Check that tubing has been properly connected and ensure the suction and liquid side service valves are fully open.
3. Review remote control functions in the Operators manual.

Operational Test

Note: The cooling test may be performed if the outdoor temperature is between 41 ºF to 118 ºF.
The heating test may be performed if the outdoor temperature is between 5 ºF to 75 ºF.

1) With the unit turned on, press the mode button and select “COOL” mode for all indoor units (see **Note** above). Allow 3 minutes for compressor delay timer to expire.
2) Press the “–” button until it reads 61 ºF on all indoor units.
3) Operate indoor units for no less than 15 minutes in the cooling mode.
4) Press the “FAN” button to select high fan speed on all units.
5) After operating for several minutes, check for cool air flow. Outlet temperature should be 20 to 24 ºF lower than ambient temperature.
6) If cooling mode is operating properly, check for proper heat operation.
7) Press the mode button to select “HEAT” (see **Note** above).
8) Press the “**+**” button until it reads 86 ºF.
9) Allow approximately 5 minutes for compressor delay timer to expire before unit will operate.
10) The indoor fan will turn on and heat should be present.
11) If unit(s) does not perform as described, see the troubleshooting section.
12) All functions should be tested for operation, see Operators manual. Review remote control functions with owner.
13) Emergency operation button – test to confirm proper operation (see Operators manual).

Notes:

1. Indoor fan will not turn off in the cooling mode.
2. Indoor fan will turn off in heating mode shortly after the set point has been satisfied.
3. Unit may require several minutes to confirm the condition of temperature set point and system functions.

TECHNICAL SPECIFICATIONS FOR DUAL ZONE OUTDOOR UNIT

Model Number		[TZ] 241-0024-C MZG424HP16230CA [SB] 241-1024-C 24MH46ZOGX
Rated Voltage & Frequency and Phase		208-230 / 1PH
Circuit Breaker Size (A)		25A
Total Current (RLA) cooling (A)		15.9
Total Current (RLA) heating (A)		15.9
High Efficiency Working Temperature Range (cooling °F)		41 to 118 {*5}
High Efficiency Working Temperature Range (heating °F)		5 to 75 {*5}
Refrigerant (R410A), (lbs)		5.5
Outdoor sound level		68/69 dB(A)
Cooling	Rated Capacity (BTU)	24,000
	Capacity Invert Range (BTU)	10,000 / 28,000
	Input / Actual Input (W)	1100 / 2250
	Max. Power (W)	3300
	Max Current (A)	16.9
	SEER	16
Heating	Rated Capacity (BTU)	28,000
	Capacity Invert Range (W)	9,000 / 33,000
	Input / Actual Input (W)	1250 / 2600
	Max. Power (W)	3500
	Max Current (A)	17.6
	HSPF	8.2
Fan Motor	Model	FW60C
	Output (W)	60
	Capacitor (UFD)	3
	Fan Motor FLA (A)	0.65
	Fan Speed (RPM) (H-M-L)	780/ 620 / 600
	Fan Type	Axial Fan
Outdoor Fan	Fan Blade Diameter (in)	18.11
	Air Flow Volume of Outdoor Unit (CFM)	2000
Compressor	Model	C-7RZ233H1A
	TYPE	Rotary
	Brand	SANYO
	Capacity (W)	7110
	Input (W)	1760
Condenser	Number of Rows	2
	Tube Pitch x Row Pitch (in)	1 / 0.87
	Fin spacing (in)	0.0551
	Fin Type	Aluminum, Louvered
	Tube Outside Dia. (in)	0.375
	Coil Length x Height x Width (in)	26.9 x 32 x 1.7
	Number of circuits	2
Dimensions & Weight	Unit Dimensions (W x H x D) (in)	37.4 x 33.07 x 16.54
	Packing Dimensions (W x H x D) (in)	43.31 x 35.63 x 17.72
	Net / Gross Weight (lb)	149.9 / 160.9
Connection	Flare Fitting Liquid line	1/4 "
	Flare Fitting Suction line	1/2" [*3]
	Service Port Fitting	5/16"
	High Pressure (psi)	500
	Low Pressure (psi)	235
	Design Length (ft)	24.6 (each indoor unit)
	Max Line Set Vertical Height (ft)	16.4 (each indoor unit) [*4]
	Max Line Set Length (ft)	65.6 (total)
	Charge over Design Length (oz. / ft)	0.16 [*1]
	Design Pressure (PSI)	130.5 / 435.1 [*2]
	Wiring (Indoor to Outdoor)	4C- 16 AWG
	Wiring (Outdoor unit to Power Disconnect)	3C- 10 AWG

*1. When the total length of liquid line is over 49.2 ft, the additional refrigerant charge is required.
*2. Design Pressure is rated under the following conditions: Indoor: Dry Bulb 80 °F, Wet-Bulb 67 °F; Outdoor: Dry-Bulb 95 °F, 75 °F.
*3. Dual Zone uses 1/2" to 3/8" adaptor for 9K indoor unit. Not required for 12K BTU indoor unit.
*4. Each unit's height, not accumulative. Example: 2 indoor units, each unit can be a maximum of 16.4 ft vertical. (NOTE: Outdoor unit must connect to TWO indoor units.)
*5 The units will operate at temperatures outside the working range - the efficiency will be decreased. As an example when in the cooling mode and the outside temperature is at 14°F it may be 40% lower in efficiency, depending on outdoor conditions.

TECHNICAL SPECIFICATIONS FOR DUAL ZONE OUTDOOR UNIT

Model Number		[TZ] 241-0034-C MZG434HP16230CA [SB] 241-1034-C 34MH46ZOGX
Rated Voltage & Frequency and Phase		208-230 / 1PH
Circuit Breaker Size (A)		40
Total Current (RLA) cooling		20.5 / 20.9 A
Total Current (RLA) heating		20.1 / 19.7 A
High Efficiency Working Temperature Range (cooling °F)		41 to 118
High Efficiency Working Temperature Range (heating °F)		5 to 75
Refrigerant (R410A), (lbs)		7.28
Outdoor sound level		68/69 dB(A)
Cooling	Rated Capacity (Btu)	27,000
	Capacity Invert Range (Btu)	10,000 / 34,000
	Input / Actual Input (W)	900 / 2600
	Max. Power (W)	4700
	Max Current (A)	21
	SEER	16
Heating	Rated Capacity (Btu)	29,000
	Capacity Invert Range (W)	9,000 / 37,000
	Input / Actual Input (W)	800 / 2500
	Max. Power (W)	3000
	Max Current (A)	17.8
	HSPF	8.2
Fan Motor	Model	FW68E
	Output (W)	68
	Capacitor (UFD)	3
	Fan Motor FLA (A)	0.68
	Fan Speed (RPM)	840 / 740 / 640
	Fan Type	Axial Fan
Outdoor Fan	Fan Blade Diameter (in)	18.11
	Air Flow Volume of Outdoor Unit (CFM)	N/A
Compressor	Model	C-7RZ233H1A
	TYPE	Rotary
	Brand	SANYO
	Capacity (W)	7110
	Input (W)	1760
Condenser	Number of Rows	2
	Tube Pitch x Row Pitch (in)	1 / 0.87
	Fin spacing (in)	0.055
	Fin Type	Aluminum, Louvered
	Tube Outside Dia.(in)	0.375
	Coil Length x Height x Width (in)	31.73 x 32 x 1.73
	Number of circuits	4
Dimensions & Weight	Unit Dimensions (W x H x D) (in)	37.4 x 33.07 x 16.54
	Packing Dimensions (W x H x D) (in)	43.31 x 35.63 X 17.72
	Net / Gross Weight (lb)	165.3 / 176.4
Connection	Flare Fitting Liquid line	1/4 "
	Flare Fitting Suction line	3/8" [*3]
	Service Port Fitting	5/16”
	High Pressure (psi)	500
	Low Pressure (psi)	235
	Design Length (ft)	32.8 (each indoor unit)
	Max Line Set Vertical Height (ft)	32.8 (each indoor unit) [*4]
	Max Line Set Length (ft)	229 (total)
	Charge over Design Length (oz. / ft)	0.24 [*1]
	Design Pressure (PSI)	130.5 / 435.1 [*2]
	Wiring (Indoor to Outdoor)	4C- 16 AWG
	Wiring (Outdoor unit to Power Disconnect)	3C- 8 AWG

*1. When the total length of liquid line is over 131 ft, the additional refrigerant charge is required.
*2. Design Pressure is rated under the following conditions: Indoor: Dry Bulb 80 °F, Wet-Bulb 67 °F; Outdoor: Dry-Bulb 95 °F, 75 °F.
*3. . Quad Zone uses 3/8" to 1/2” adaptor for 12K and 18K indoor units. Not required for 9K BTU indoor unit.
*4. Each unit's height, not accumulative. Example: 2 indoor units, each unit can be a maximum of 32.8 ft vertical. (NOTE: Outdoor unit must connect to TWO indoor units.)
*5 The units will operate at temperatures outside the working range - the efficiency will be decreased. As an example when in the cooling mode and the outside temperature is at 14°F it may be 40% lower in efficiency, depending on outdoor conditions.

High Efficiency Indoor Unit				
	Thermal Zone Models	**241-0009-E MZG409HP16230EA**	**241-0012-E MZG412HP16230EA**	**241-0018-E MZG418HP16230EA**
	Sea Breeze Models	**241-1009-E 9MH46ZIGX**	**241-1012-E 12MH46ZIGX**	**241-1018-E 18MH46ZIGX**
Performance & Electrical	Rated Voltage & Frequency	208-230 / 1PH	208-230 / 1PH	208-230 / 1PH
	Total Input Current (A)	0.17	0.17	0.278
	Cooling BTU	9000	12000	18000
	Heating BTU	10000	13500	19500
	Dehumidifying Volume (pt/hr)	1.7	2.5	5.3
Fan Motor	Output (W)	10	10	20
	Fan Motor RLA (A)	0.17	0.17	0.278
	Fan Motor Capacitor (MFD/V)	1	1	1
	Speed (Hi/Med/Low) (RPM)	1150 / 1000 / 850	1150 / 1050 / 900	1150 / 1050 / 950
	Speed (turbo) (RPM)	1250	1350	1380
Evaporator	Number of rows	2	2	2
	Tube pitch row / pitch (in)	0.5 / 0.75	0.5 / 0.75	0.5 / 0.75
	Fin spacing (in)	0.063	0.055	0.059
	Fin Type	Aluminum, Louvered	Aluminum, Louvered	Aluminum, Louvered
	Tube outside dia.(in) / Type	0.276	0.276	0.276
	Coil Length x height x width (in)	23.74 x 10.39 x 1	25.87 x 11.22 x 1	29.13 x 11.85 x 1
	Liquid Line	1/4"	1/4"	1/4"
	Suction Line	3/8"	1/2”	1/2”
Design Data	Air Flow (Turbo/Hi/Med/Low) (CFM)	265 / 231 / 190 / 163	300 / 252 / 223 / 195	488 / 394 / 352
	Sound Pressure Level dB(A) (H / M / L)	38 / 35 / 32 / 29	40 / 35 / 33 / 30	46 / 43 / 38 / 34
	Sound Power Level dB(A) (H / M / L)	48 / 45 / 42 / 39	50 / 45 / 43 / 40	56 / 53 / 48 / 44
	Fan Type	Cross flow fan	Cross flow fan	Cross flow fan
	Fan Diameter (in)	3.35	3.35	3.86
	Fan Length (in)	24.21	26.3	28.86
	Design Pressure (PSI)	130.5 / 435.1	130.5 / 435.1	130.5 / 435.1
	High Pressure (PSI)	500	500	500
	Low Pressure (PSI)	235	235	235
	Remote	Yes	Yes	Yes
	Auto-restart	Yes	Yes	Yes
Dimensions & Weight	Unit Dimensions (W x H x D) (in)	32.09 x 10.51 x 6.50	34.33 x 11.14 x 7.01	37.80 x 11.81 x 7.68
	Packing Dimensions (W x H x D) (in)	35.04 x 13.54 x 10.24	36.81 x 14.72 x 10.24	40.75 x 15.35 x 11.02
	Net / Gross Wt (lbs)	22.05 / 28.66	24.25 / 33.07	28.66 / 39.68

TROUBLESHOOTING

The first step in troubleshooting is to disconnect power for 30 seconds to allow the unit to reset. If this does not rectify the problem proceed with the troubleshooting chart below.

Problem	Troubleshooting
The unit does not run.	• Is the power off? • Is the circuit protection device tripped? • Is voltage too high or low? (Tested by a professional) • Is the Timer on? • A 3 minute delay occurs before each compressor start.
Cooling and or Heating efficiency is not good.	• Is temperature setting correct? • Are the inlet or outlet vents obstructed? • Is the filter clean? • Are windows and doors closed? • Is fan set to low speed? • Is there a heat source in the room?
Wireless remote control is not working. (See Note 3)	• Reset unit. Disconnect main power for 30 seconds then reapply. • Is it within receiving range? Is it obstructed? • Replace the batteries. • Is remote control damaged?
Water leaking into room.	• The air humidity is excessively high. Check to see if all windows and doors are closed. • Call service Tech if not corrected by the above action.
Water leakage in outdoor unit.	• When the unit is running in Auto Defrosting mode, ice will thaw and drip into pan. • When the unit is running in HEAT mode, the water adhered to the condenser coil drains into pan.
Noise from indoor unit emitted.	• When defrosting is started or stopped, it will make a sound. This is due to the refrigerant flow reversing directions. • Normal refrigerant flowing in unit.

Notes:

1) If E7 error code occurs, see the AUTO mode section in Operators Manual on page 7.
2) An audible beep will be heard, when a button is pressed, if the remote control is communicating with the receiver.

This air conditioning system has been provided with built in self diagnostic error codes. Please refer to the following table for error code definitions:

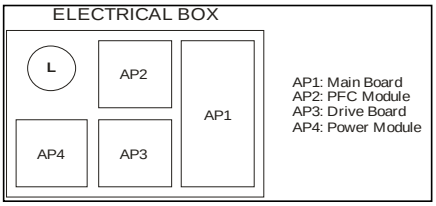
INDOOR UNIT ERROR CODES

Malfunction Name	Display	Running LED	Heating LED	Cooling LED
System Overload	H4		4 Flashes	
Compressor Overload Protection	H3		3 Flashes	
IPM Protection	H5		5 Flashes	
High Pressure Protection	E1	1 Flash		
Anti-Freezing Protection	E2	2 Flashes		
Exhaust Protection	E4	4 Flashes		
Over Current Protection	E5	5 Flashes		
Mode Conflict	E7	7 Flashes		
Communication Malfunction	E6	6 Flashes		
Defrost or Oil Return of Heat	H1		1 Flash	
Indoor Ambient Sensor Malfunction	F1			1 Flash
Indoor Tube Sensor Malfunction	F2			2 Flashes
Outdoor Ambient Sensor Malfunction	F3			3 Flashes
Outdoor Tube Sensor Malfunction	F4			4 Flashes
Outdoor Exhaust Sensor Malfunction	F5			5 Flashes
Failure Startup	H7		7 Flashes	
PFC Malfunction PFC	HC		6 Flashes	
Demagnetizing Protection for Compressor	HE		14 Flashes	
Below the malfunctions will be displayed by pressing the SLEEP button on the Remote Control 6 times in 3 sec. The malfunction will be automatically cleared in 5 min.				
Frequency Drop for Overload	F6			6 Flashes
Frequency Drop for Over Current Protection	F8			8 Flashes
Frequency Drop for Exhaust Protection	F9			9 Flashes
Frequency Drop for Heating High Temperature Protection	H0		10 Flashes	
Anti-Cold Protection	E9	9 Flashes		
Oil Return of Cooling	F7			7 Flashes

Quad Zone

Flash Codes Outdoor Unit - Models: MZG434HP16230CA, 34MH46ZOGX

D101 / red	Malfunction	D102 / yel	Malfunction	D103 / grn	Malfunction
1 Blink	Compressor runs	1 Blink	Frequency drop for exhaust protection	1 Blink	Frequency limit for exhaust protection
2 Blinks	Unit stop for compressor high pressure protection	2 Blinks	Frequency drop for cooling overload	2 Blinks	Frequency limit for cooling overload
3 Blinks	Unit stop for air exhaust protection	3 Blinks	Frequency drop for over current protection	3 Blinks	Frequency limit for over current protection
4 Blinks	Unit stopped for communication malfucntion (includes indoor unit and SIPM)	4 Blinks	Frequency drop for phase current protection	4 Blinks	Frequency limit for phase current protection
5 Blinks	Unit stopped for IPM protection	5 Blinks	Frequency drop for heating unit A high temp protection	5 Blinks	Frequency limit for heating unit A high temp protection
6 Blinks	Unit stopped for over current protection	6 Blinks	Frequency drop for heating unit B high temp protection	6 Blinks	Frequency limit for heating unit B high temp protection
7 Blinks	Unit stopped for cooling overload	7 Blinks	Frequency drop for heating unit C high temp protection	7 Blinks	Frequency limit for heating unit C high temp protection
8 Blinks	Unit stopped for high temp protection of each indoor unit	8 Blinks	Frequency drop for heating unit D high temp protection	8 Blinks	Frequency limit for heating unit D high temp protection
9 Blinks	Unit stopped for anti-freezing protection of each indoor unit	9 Blinks	Defrost	9 Blinks	Oil return
10 Blinks	Unit stopped for outdoor unit sensor malfunction or indoor sensor malfunction				
11 Blinks	Unit stopped for compressor overload protection				
12 Blinks	Unit stopped for compressor low pressure protection				
13 Blinks	Unit stopped for phase current protection	**D105 / yel**	**Malfunction**	**D106 / grn**	**Malfunction**
14 Blinks	Unit stopped for Incorrect read of EEPROM	1 Blink	A unit communication malfunction (cannot receive correct data within 3 mins.)	1 Blink	B unit communication malfunction (cannot receive correct data within 3 mins.)
15 Blinks	Unit stopped for DC power supply short circuit	2 Blinks	A unit indoor middle sensor malfunction	2 Blinks	B unit indoor middle sensor malfunction
		3 Blinks	A unit indoor unit outlet pipe sensor malfunction	3 Blinks	B unit indoor unit outlet pipe sensor malfunction
D104 / red	**Malfunction**	4 Blinks	A unit indoor unit inlet pipe sensor malfunction	4 Blinks	B unit indoor unit inlet pipe sensor malfunction
1 Blink	Outdoor ambient sensor malfunction	5 Blinks	A unit indoor unit ambient sensor malfunction	5 Blinks	B unit indoor unit ambient sensor malfunction
2 Blinks	Outdoor tube sensor malfunction	6 Blinks	A unit modes confliction	6 Blinks	B unit modes confliction
3 Blinks	Outdoor air exhaust sensor malfunction	7 Blinks	A unit anti-freezing protection	7 Blinks	B unit anti-freezing protection
4 Blinks	Drive board communication malfunction (cannot receive correct data within 10 sec.)	8 Blinks	A unit high temperature protection	8 Blinks	B unit high temperature protection
D107 / red	**Malfunction**	**D108 / yel**	**Malfunction**	**D109 / grn**	**Malfunction**
1 Blink	C unit communication malfunction (cannot receive correct data within 3 mins.)	1 Blink	D unit communication malfunction (cannot receive correct data within 3 mins.)	1 Blink	Flash once after receiving correct communication data
2 Blinks	C unit indoor middle sensor malfunction	2 Blinks	D unit indoor middle sensor malfunction		
3 Blinks	C unit indoor unit outlet pipe sensor malfunction	3 Blinks	D unit indoor unit outlet pipe sensor malfunction	**LED1 / red**	**Malfunction**
4 Blinks	C unit indoor unit inlet pipe sensor malfunction	4 Blinks	D unit indoor unit inlet pipe sensor malfunction	1 Blink	Compressor runs normal
5 Blinks	C unit indoor unit ambient sensor malfunction	5 Blinks	D unit indoor unit ambient sensor malfunction	2 Blinks	Unit stopped for abnormity
6 Blinks	C unit modes confliction	6 Blinks	D unit modes confliction	3 Blinks	IPM protection
7 Blinks	C unit anti-freezing protection	7 Blinks	D unit anti-freezing protection	4 Blinks	Demagnetization protection
8 Blinks	C unit high temperature protection	8 Blinks	D unit high temperature protection	5 Blinks	PFC protection
				6 Blinks	Start up 5 consecutive times
				7 Blinks	Start up failure
		LED2 / grn	**Malfunction**	8 Blinks	DC bus voltage is under 350V during start up of compressor
		1 Blink	Communication failure (cannot receive correct data within 10 sec.)	9 Blinks	DC bus voltage is above 420V
		2 Blinks	Normal communication	10 Blinks	IPM over heat protection
				11 Blinks	DC bus voltage is under 320V during running
				12 Blinks	IPM temp detects short or open circuit of thermister

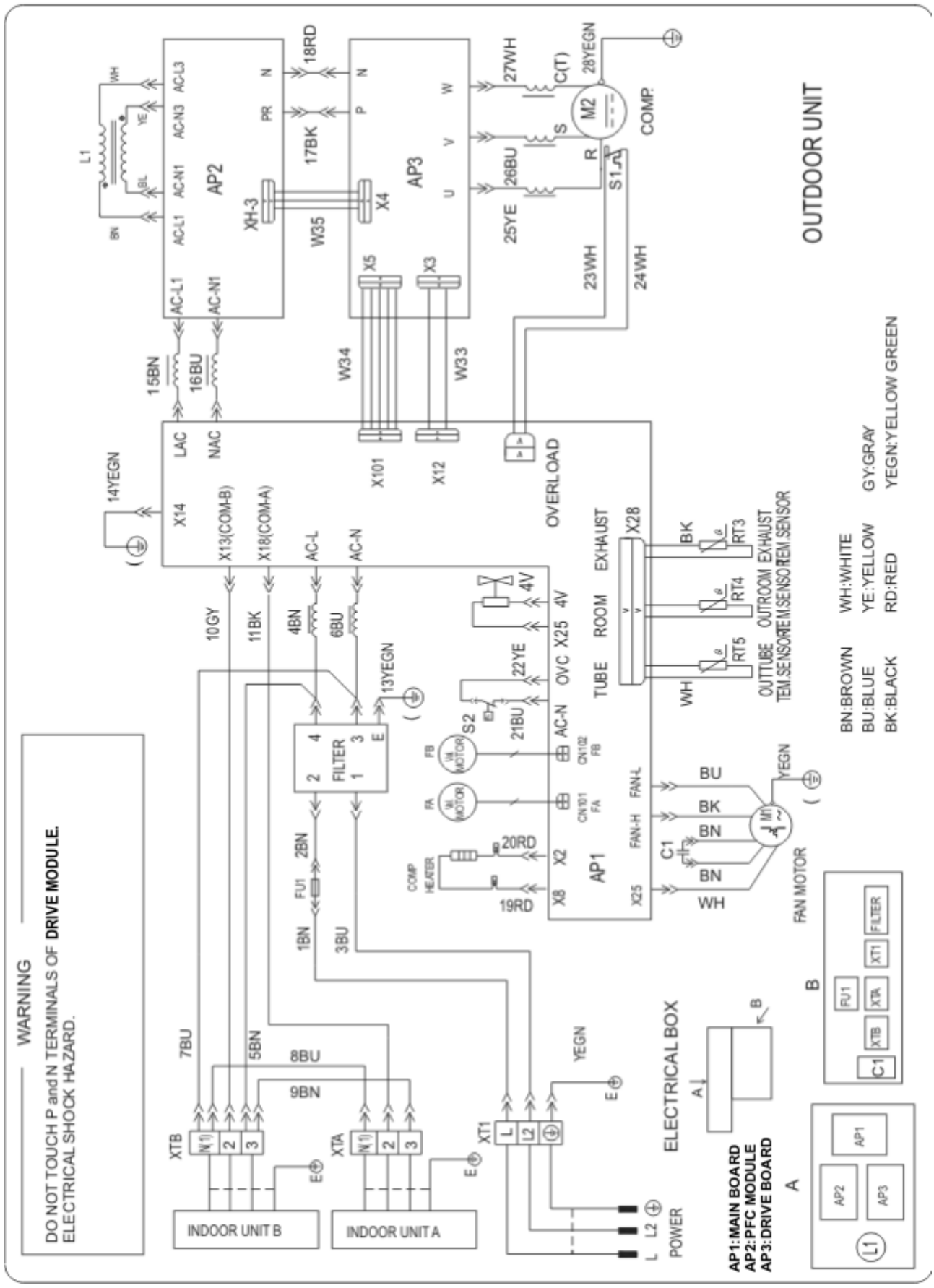


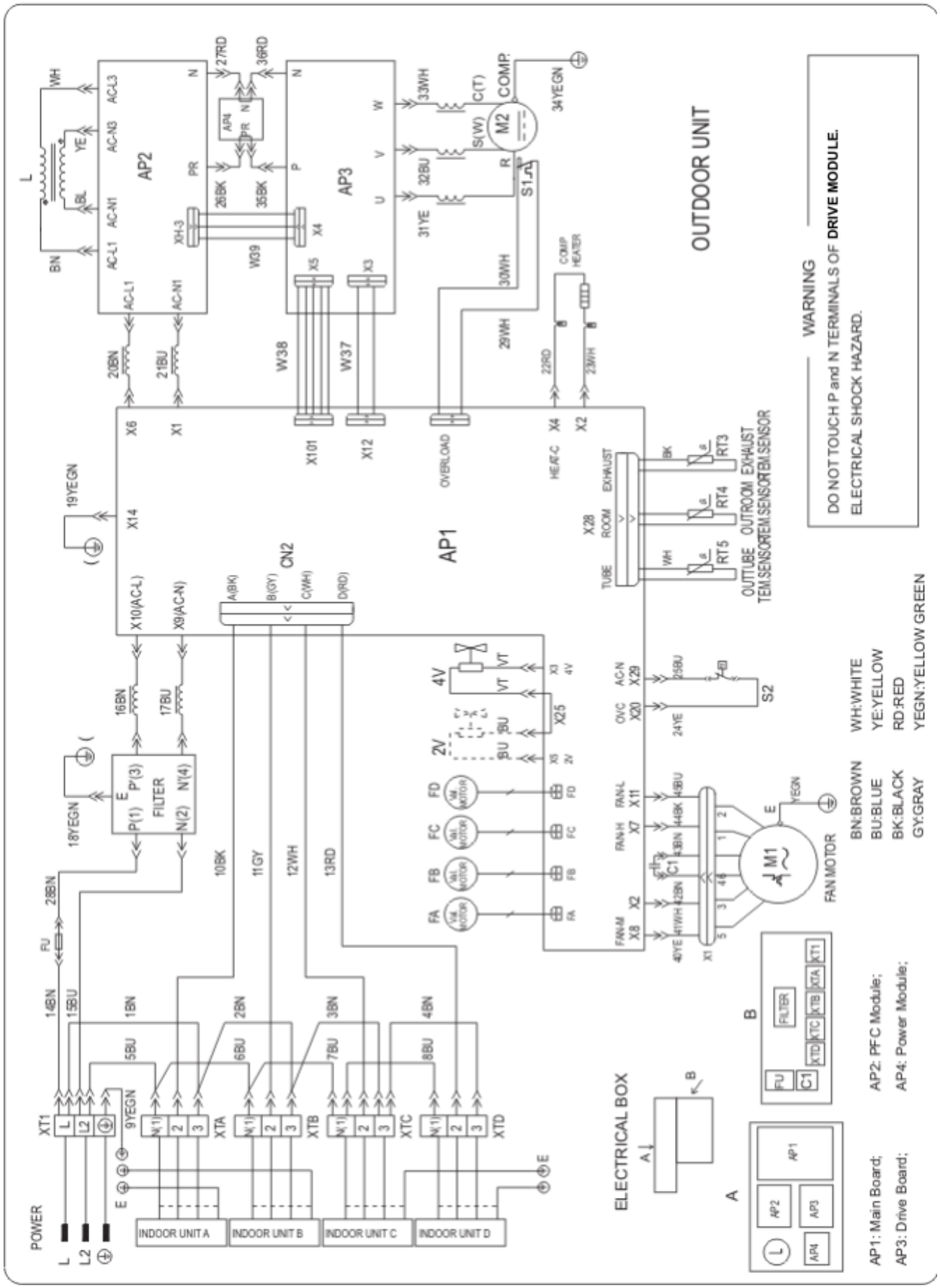
Note: D101-D109, LED1 and LED2 are all indicators for malfunctions, in which D101-D109 are on the main board AP1 and LED1 and LED2 are on the drive board AP3.

Dual Zone

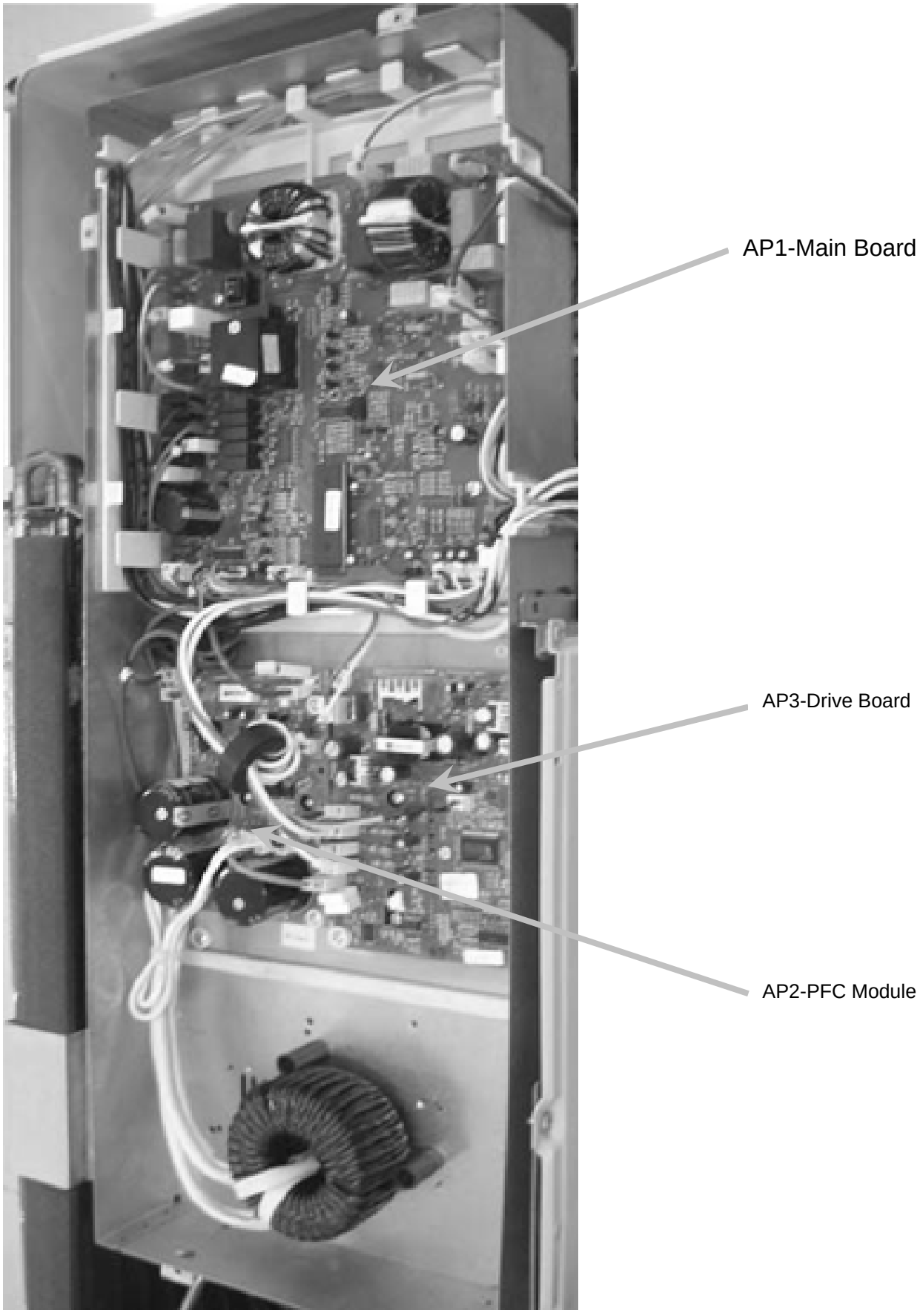
Flash Codes Outdoor Unit - Models: MZG424HP16230CA, 24MH46ZOGX					
D101	**Definition**	**D102**	**Definition**	**D103**	**Definition**
1 Blink	Compressor runs	1 Blink	A unit communication malfunction (cannot receive correct data within 3 mins.)	1 Blink	B unit communication malfunction (cannot receive correct data within 3 mins.)
2 Blinks	Unit stop for compressor high pressure protection	2 Blinks	A unit indoor sensor malfunction	2 Blinks	B unit indoor sensor malfunction
3 Blinks	Unit stop for air exhaust protection	3 Blinks	A unit indoor unit outlet sensor malfunction	3 Blinks	B unit indoor unit outlet sensor malfunction
4 Blinks	Unit stopped for communication malfucntion (includes indoor unit and drive board)	4 Blinks	A unit indoor unit inlet sensor malfunction	4 Blinks	B unit indoor unit inlet sensor malfunction
5 Blinks	Unit stop for module protection	5 Blinks	A unit indoor unit ambient sensor malfunction	5 Blinks	B unit indoor unit ambient sensor malfunction
6 Blinks	Unit stop for over current protection	6 Blinks	A unit modes confliction (V1.6)	6 Blinks	B unit modes confliction (V1.6)
7 Blinks	Unit stop for refrigerant overload	7 Blinks	A unit anti-freezing protection	7 Blinks	B unit anti-freezing protection
8 Blinks	Unit stop for heating anti-high temperature	8 Blinks	A unit anti-high temperature protection	8 Blinks	B unit anti-high temperature protection
9 Blinks	Unit stop for refrigerant anti-freezing				
10 Blinks	Unit stop foremp. sensor malfunction				
11 Blinks	Unit stop for compress overload protection				
12 Blinks	Unit stop for compressor low pressure protection	**D104**	**Definition**	**D105**	**Definition**
13 Blinks	Unit stop for DC generatrix over current protection	1 Blink	Air exhaust protection drop frequency	1 Blink	Air exhaust protection limit frequency
14 Blinks	EEPROM fault	2 Blinks	Over current protection drop frequency	2 Blinks	Over current protection limit frequency
15 Blinks	DC power supply short circuit	3 Blinks	Refrigerant overload drop frequency	3 Blinks	Refrigerant overload limit frequency
LED1	**Red Drive**	4 Blinks	Heating A unit anti-high temp. drop frequency	4 Blinks	Heating A unit anti-high temp. limit frequency
Dark	Normal, reset unit stop	5 Blinks	Heating B unit anti-high temp. drop frequency	5 Blinks	Heating B unit anti-high temp. limit frequency
1 Blink	Compressor normally runs	6 Blinks	phase-current protection drop frequency	6 Blinks	Oil return
2 Blinks	Unit stop for abnormal	7 Blinks	A anti-freezing protection drop frequency	7 Blinks	A anti-freezing protection limit frequency
3 Blinks	IPM protection	8 Blinks	B anti-freezing protection drop frequency	8 Blinks	B anti-freezing protection limit frequency
4 Blinks	Demagnetization protection	9 Blinks	Defrosting	9 Blinks	
5 Blinks	PFC protection	**D106**	**Definition**	**D107**	**Definition (SIPM information)**
6 Blinks	10 times tried to start - failure	1 Blink	Outdoor ambient sensor malfunction	1 Blink	Reset and stop
7 Blinks	Startup failure	2 Blinks	Outdoor tube sensor malfunction	2 Blinks	Instantaneous overcurrent or 17V voltage is too low
8 Blinks	Startup failure	3 Blinks	Outdoor air exhaust sensor malfunction	3 Blinks	Abnormal low speed
9 Blinks	Startup failure	4 Blinks		4 Blinks	Shift failure
10 Blinks	Pressure lack	5 Blinks	Drive board communication malfunction (cannot receive correct data within 10 sec.)	5 Blinks	Overload stop
11 Blinks	Over pressure	6 Blinks		6 Blinks	OH over temperature
LED2	**LED2 Green-Drive**	7 Blinks		7 Blinks	OH or FIN sensor abnormal
Bright	Communication malfunction (no data received in 10 sec.)	8 Blinks		**D108**	**Definition**
Blink	Communication normal	9 Blinks		1 Blink	Received verified and correct indoor data

Wiring Diagram For Models: MZG424HP16230CA, 24MH46ZOGX (Dual Zone)



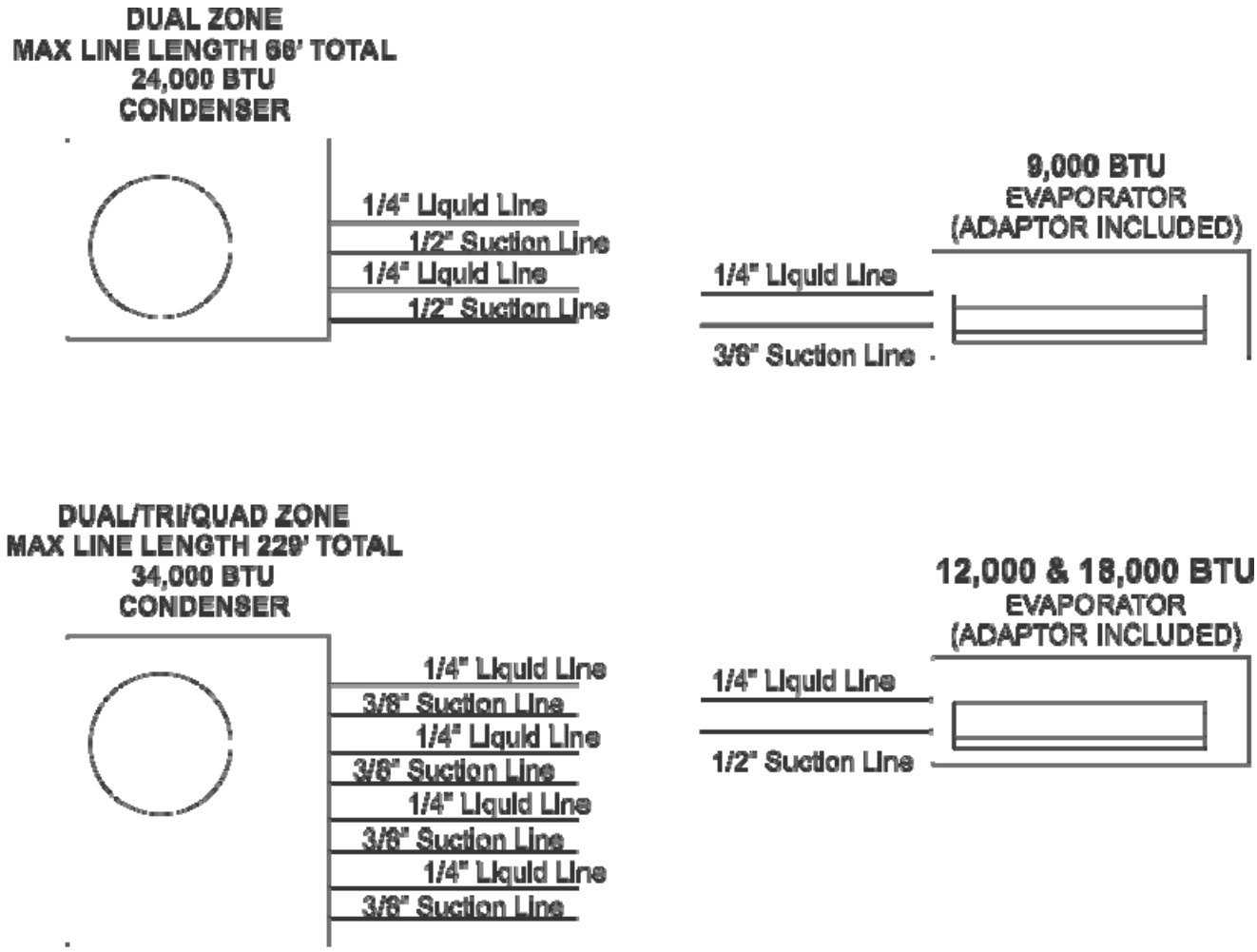

OUTDOOR UNIT
AP1
AP2
AP3
AP4
M1
M2
S1
S2
COMP.
FAN MOTOR
ELECTRICAL BOX
WARNING
DO NOT TOUCH P and N TERMINALS OF DRIVE MODULE.
ELECTRICAL SHOCK HAZARD.
POWER
INDOOR UNIT A
INDOOR UNIT B
INDOOR UNIT C
INDOOR UNIT D
OUTTUBE TEM.SENSOR
ROOM TEM.SENSOR
EXHAUST SENSOR
BN:BROWN
BU:BLUE
BK:BLACK
GY:GRAY
WH:WHITE
YE:YELLOW
RD:RED
YEGN:YELLOW GREEN
AP1: Main Board;
AP2: PFC Module;
AP3: Drive Board;
AP4: Power Module;

Dual Zone PC Board Layout



Quad Zone PC Board Layout

Tubing Connection Diagram



NOTE: Line sets should be the same size as the indoor unit.

WARRANTY

INTERNATIONAL REFRIGERATION PRODUCTS warrants the accompanying split air conditioner or heat pump system to be free of defects in material and workmanship for the applications specified in the operation manual and installation manual for a period of one (1) year on parts and five (5) years on compressor, valid from the date of original retail purchase in the United States or Canada. **Labor is not covered under warranty.**

If the unit exhibits a defect in normal use and is determined to be within the warranty period, **INTERNATIONAL REFRIGERATION PRODUCTS** will, at its option, either repair or replace the unit free of charge within a reasonable time after the unit is returned.

This warranty DOES NOT cover:

- Damage, accidental or otherwise, to the unit while in possession of the consumer that is not a result of a defect in material in workmanship.
- Damage caused by consumer misuse, tampering, or failure to follow all care and maintenance instructions in the manuals.
- Damage to the finish of the case or other parts caused by water.
- Damage caused by repairs or alterations to the unit by anyone other than a qualified technician.
- Filter.
- Freight and Insurance cost for the warranty service.

Warranty Activation Card must be completed and sent in to activate the warranty for the accompanying unit.

TECHNICAL SUPPORT

If you need technical support please call 704-504-8590 M-F 8:00am to 4:30pm ET.
When calling, please have your unit model numbers and serial numbers available.

Electronic warranty activation and product information www.irproducts.biz .

International Refrigeration Products Inc., 700 Corporate Dr.
Toms River, NJ 08755