ZenAire BCC36B13R 4 Way Cassette Mini Splits Instruction Manual

Contents

ZenAire BCC36B13R 4 Way Cassette Mini Splits

Product Usage Instructions

- The indoor unit should be installed in a location that meets the following requirements:
- There is enough room for installation and maintenance.
- The ceiling is horizontal and can endure the weight of the indoor unit.
- The outlet and inlet are unobstructed with minimal external air influence.
- The airflow can reach throughout the room.
- The connecting pipe and drain pipe can be easily extracted.
- Avoid direct radiation from heaters.
- Brand-new panel design for uniform, simple appearance suitable for various settings.
- Ultra-thin body design with a minimum height of 230mm to save installation space.
- Round-way air flow for even cooling throughout the room.
- Intelligent auto-swing function with three modes to choose from.
- 3-speed fan motor to meet different requirements.
- Energy-saving with hydrophilic aluminum fins for increased heat exchange efficiency.

General information

Model Names

Indoor units

Model name	Dimension (W×H×D) (mm)	Net/Gross weight (kg)	Power supply
Round-flow Cassette			
standard			
BCC36B13R	840×230×840	28/32	208~230V/1Ph/60Hz
BCC60B13R	840×285×840	31/35	208~230V/1Ph/60Hz

External Appearance

Indoor Units

Round-way Cassette	

Features

1. High-quality coils
   The coil is constructed of advanced inner grooved copper tube and aluminum fins.

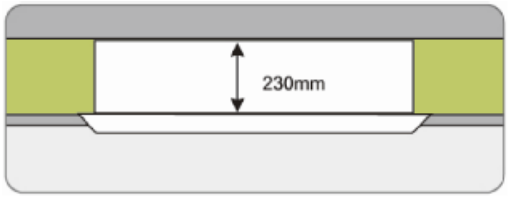
2. Low operation sound level: Well-known stable and quiet running fan motor.
3. Well-known compressor, Sanyo & Hitachi.
4. Compact design: Smaller dimension and larger staffing capacity.
5. Universal outdoor unit design.

Features

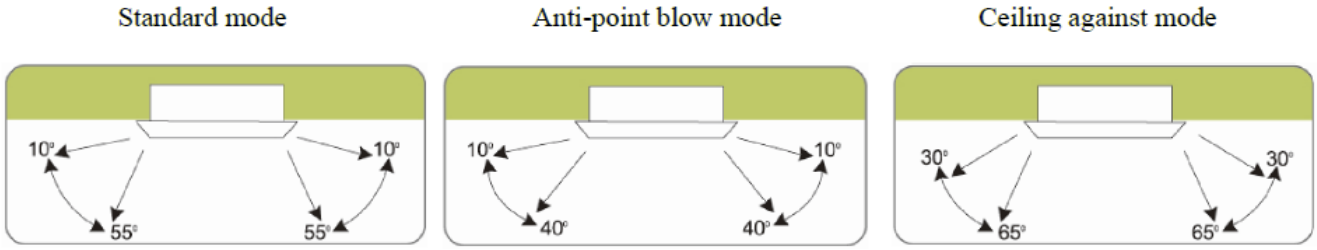
1. Brand-new panel design. Indoor units use uniform panels, simple and convenient.
   Simple, featly and voguish appearance suit for different requirements, it's mostly used for office, shopping center, restaurant, meeting room, etc.



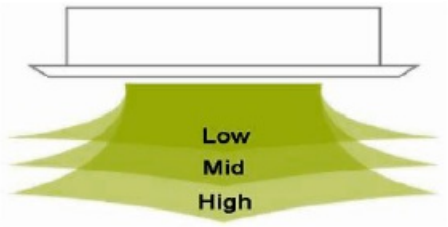
2. Ultra-thin body design, the min. height is only 230mm, save installation space.



3. Roundway air flow, cool air can reach each corner of the room, providing a comfortable environment.
4. Intelligentauto-swing function, three modes for choice.

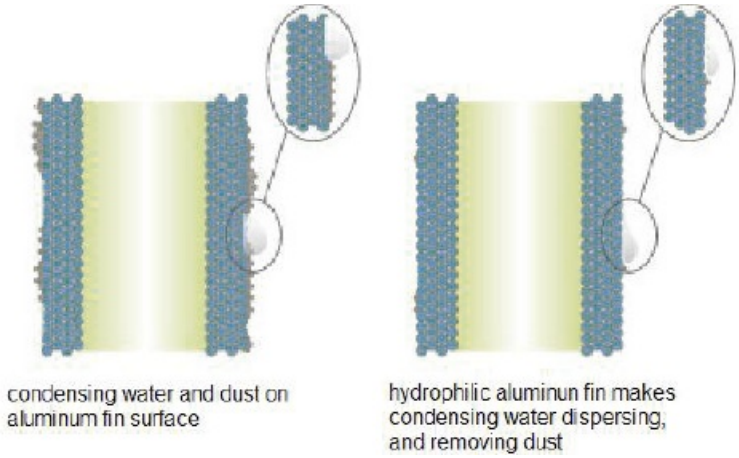


5. 3The-speed fan motor meets different requirements.

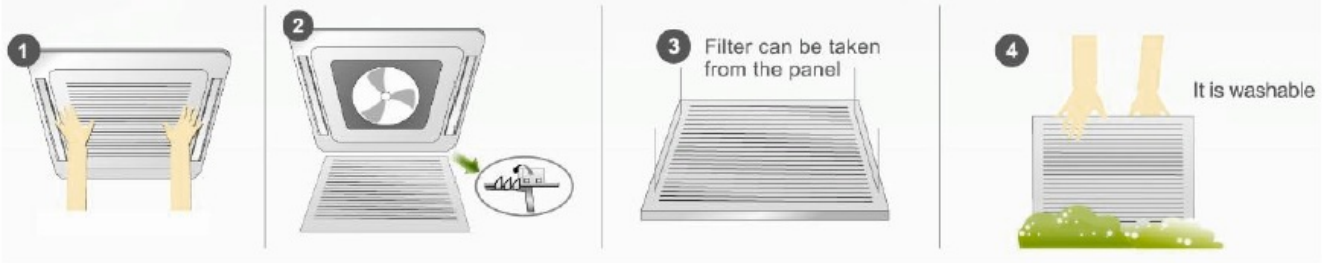


(6)New streamlined fan design.

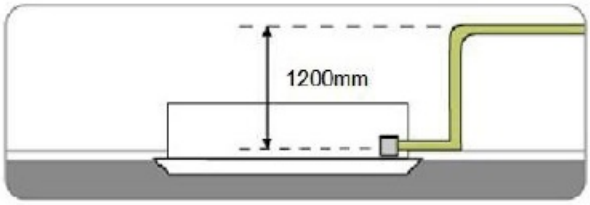
6. Energy saving and healthy, adopting hydrophilic aluminum fins increasing heat-exchange efficiency.



7. Easy and convenient installation and maintenance, washable filter design.



8. Built-in water pump, water head up to 1200mm (Compact type, 700mm).



9. Fire resistance design, the E-box with galvanized steel built-in body is easy for maintenance.

10. Add 4 interfaces in the body, which can be connected with a duct to another room. Fresh air makes air quality healthier and more comfortable.

11. Multi-protection and auto-restart function.
12. The standard for the wireless controller; option for the wired controller.

Standard

optional

Specifications

Model			**BCC36B13R**	**BCC60B13R**
Code			821028900052	821030100026
Indoor power supply		V/Ph/Hz	208~230/1/60	208~230/1/60
	Capacity	Btu/h	36000	60000
		W	10548	17580

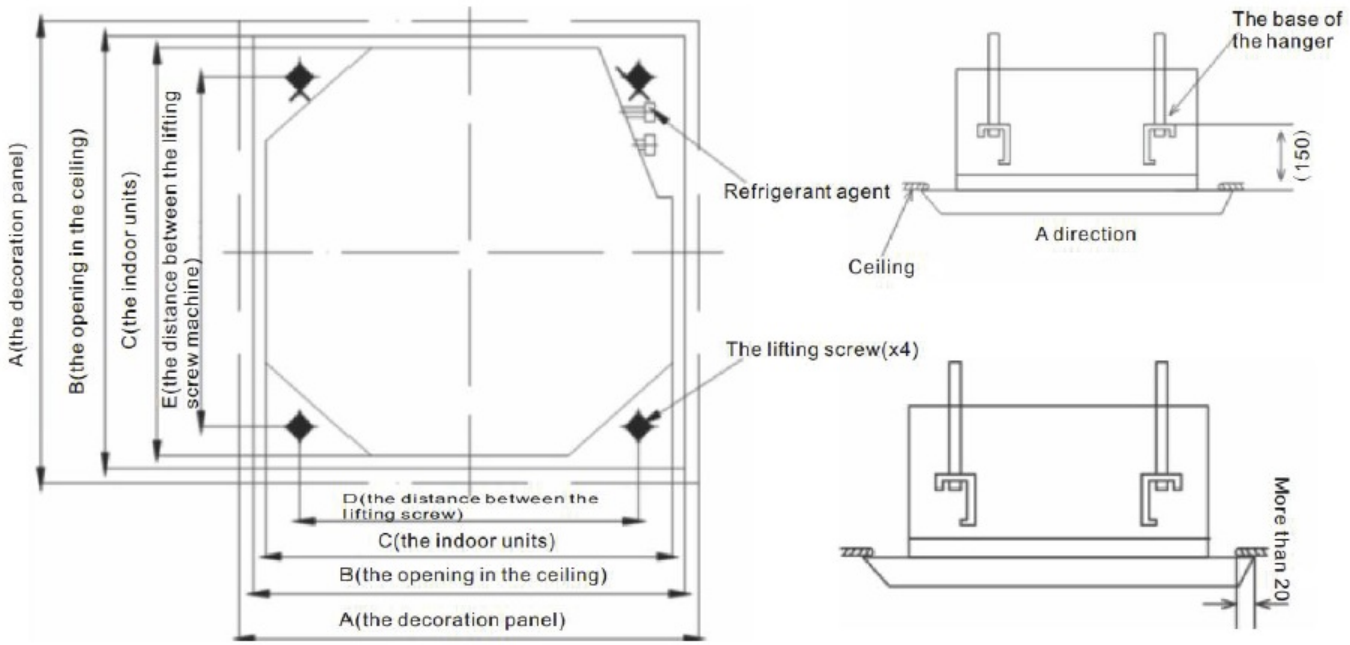
Cooling	Input	W	4125	6912
	Rated current	A	17.5	29.23
	Input(Indoor unit)	W	150	180
	Rated current(Indoor unit)	A	0.7	0.8
	EER	W/W	2.56	2.54
Indoor fan motor	Brand		Kaibang	Kaibang
	Model		YDK-45Q-8P2	YDK-80Q-8P2
	Input	W	102	160
	Capacitor	μF	2.5	4
	Speed(Hi/Me/Lo)	r/min	850/730/580	800/750/650
Indoor coil	Number of rows		2	2
	Tube pitch(a)xrow pitch(b)	mm	21×13.37	21×13.37
	Fin spacing	mm	1.45	1.45
	Fin type		Hydrophilic	Hydrophilic
	Tube outside dia. and type	mm	Φ7	Φ7
			inner grooved	inner grooved
	Number of circuits		8	12
Indoor air flow(High speed)		m3/h	1200	1900
Indoor noise level		dB(A)	45 52	51 57
	Dimension(W*D*H)	Body (mm)	840×840×230	840×840×285
		Panel (mm)	950×950×50	950×950×50
		Body (mm)	920×920×310	920×920×375

Indoor unit	Packing(W*D*H)	Panel (mm)	1030×1030×105	1030×1030×105
	Net/Gross weight	Body /Kg	28/32	31/35
		Panel /Kg	5.4/8.0	5.4/8.0
Max pressure		MPa	4.0	4.5
Refrigerant type			R410A	R410A
Refrigerant piping	Liquid side/Gas side	mm	Φ9.52/Φ19.05	Φ9.52/Φ19.05
Drainage pipe		mm	25	25
Standard controller				
Operation temp		°C	16 32	16 32
Ambient temp		°C	18 43	18 43
Application area		m2	40-70	60~105
Stuffing Quantity(20'/40'/40'HQ)		set	65/130/150	65/130/150

Notes

1. Nominal cooling capacities are based on the following conditions:
   Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent ref. piping: 7.5m (horizontal)
2. Nominal heating capacities are based on the following conditions:
   Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)
3. Actual noise levels may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

Dimensions



Installation dimension unit: mm

Model (kBtu/h)	Dimensions(H)
For 18, 24 series	230
For 36, 48, 60 series	285

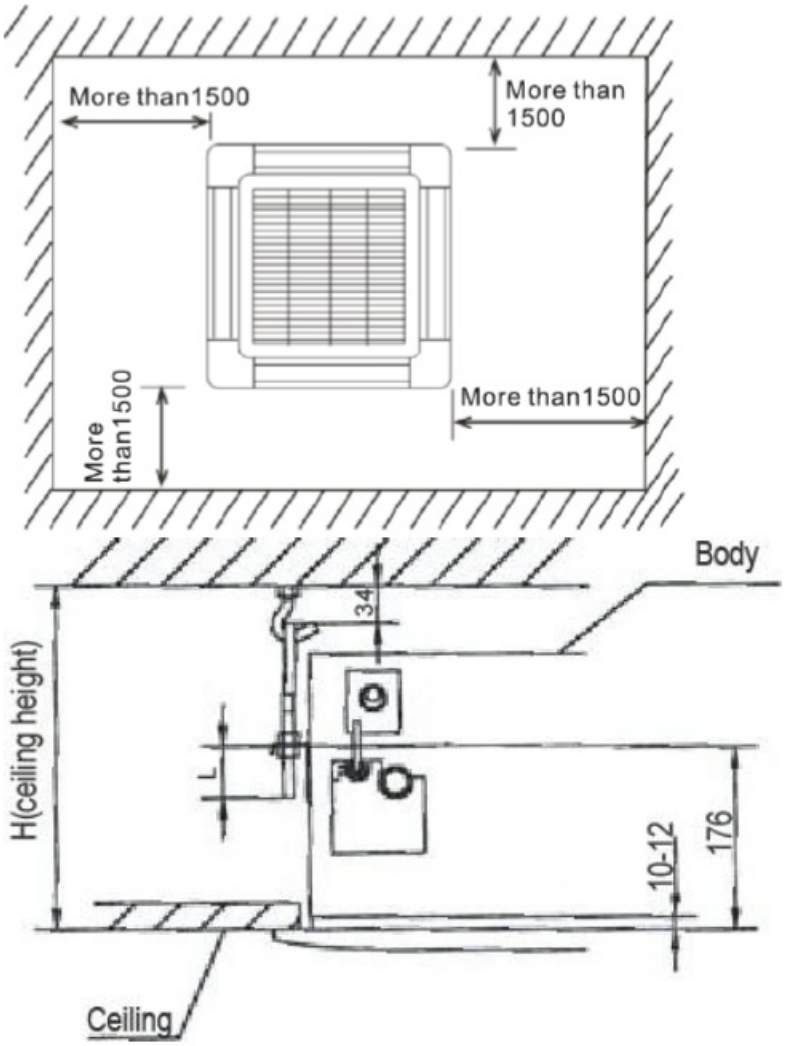
unit: mm

Model (kBtu/h)	Dimensions(H)				
	A	B	C	D	E
For 18, 24, 36, 48, 60 series	950	890*	840	680	780

Service Space

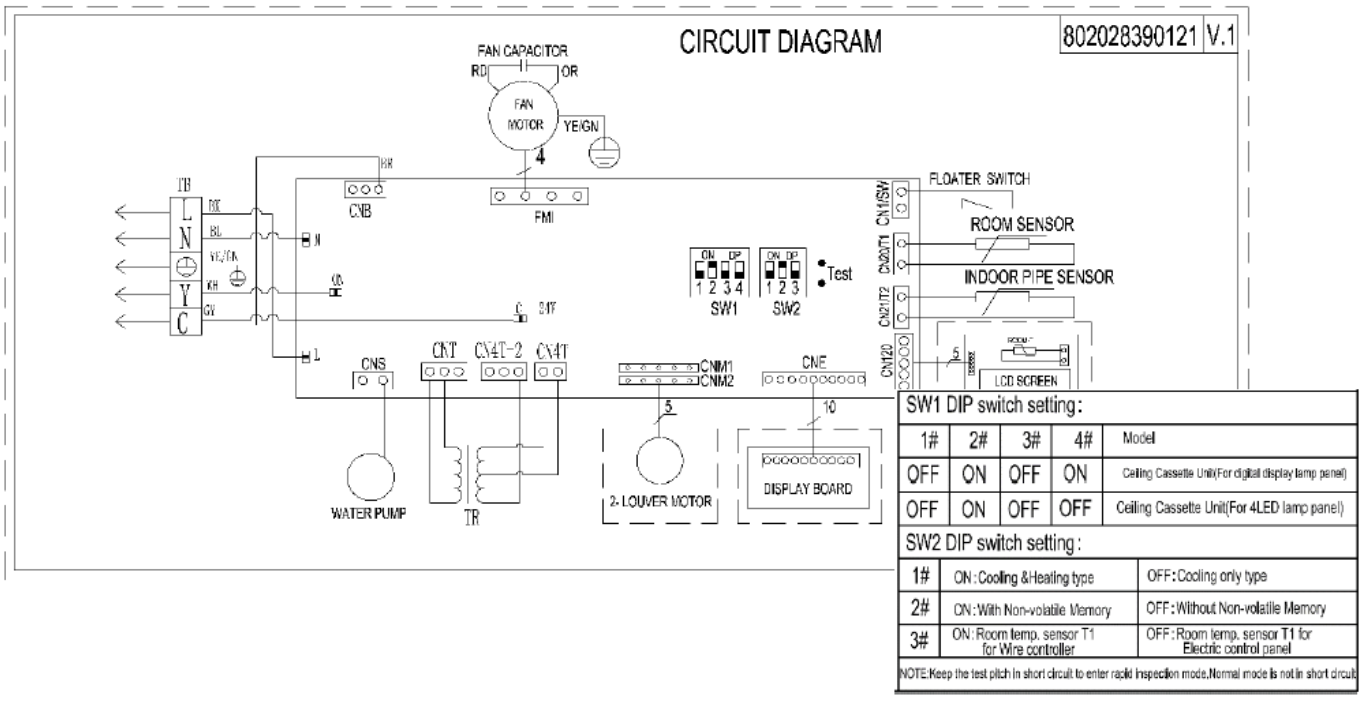
The indoor unit should be installed in a location that meets the following requirements:

- There is enough room for installation and maintenance.
- The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- The outlet and the inlet are not impeded, and the influence of external air is the least.
- The air flow can reach throughout the room.
- The connecting pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters.



Wiring Diagrams

BCC36B13R



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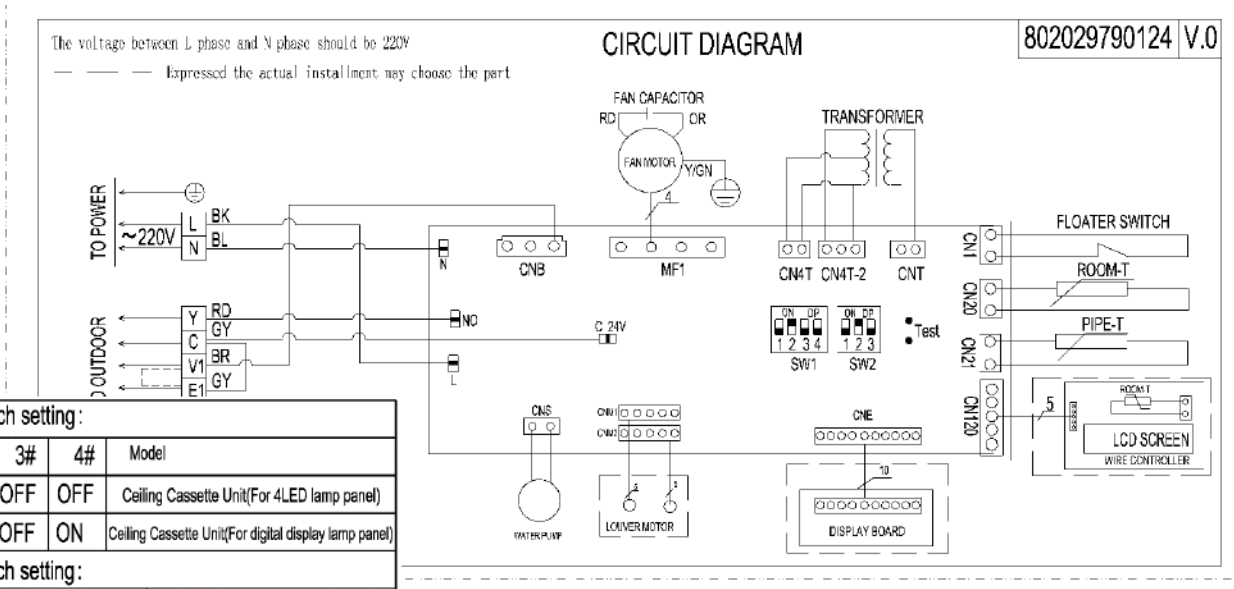


SW1 DIP switch setting:				
1#	2#	3#	4#	Model
OFF	ON	OFF	OFF	Ceiling Cassette Unit(For 4LED lamp panel)
OFF	ON	OFF	ON	Ceiling Cassette Unit(For digital display lamp panel)

SW2 DIP switch setting:		
1#	ON: Cooling &Heating type	OFF: Cooling only type
2#	ON: With Non-volatile Memory	OFF: Without Non-volatile Memory
3#	ON: Room temp. sensor T1 for Wire controller	OFF: Room temp. sensor T1 for Electric control panel

NOTE:Keep the test pitch in short circuit to enter rapid inspection mode.Normal mode is not in short circuit

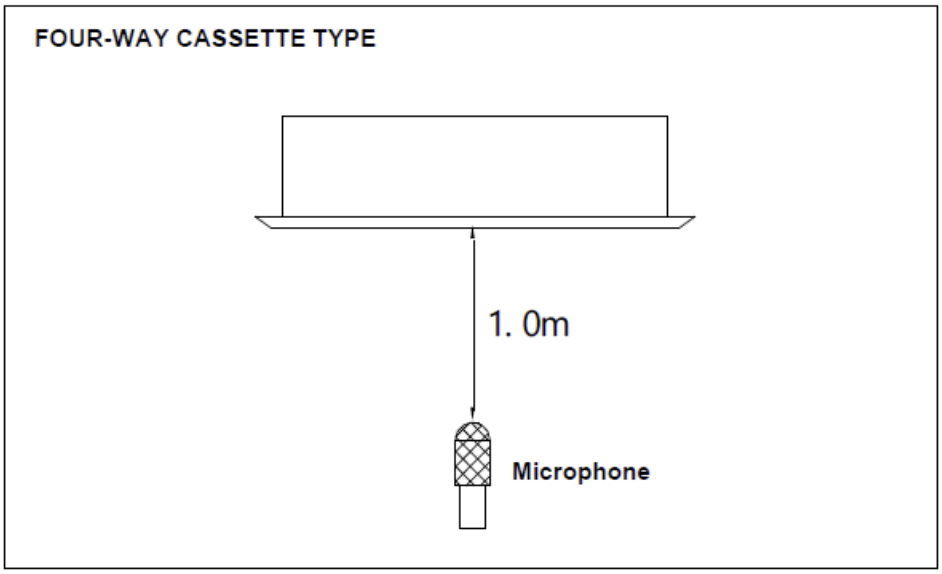
Electric Characteristics

Model	Indoor Unit			
	Hz	Voltage	Min.	Max.
BCC36B13R	60	208-230V	187V	244V
BCC60B13R	60	208-230V	187V	244V

Remark:

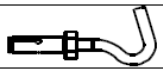
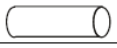
- MCA: Min. Current Amps. (A)
- MFA: Max. Fuse Amps. (A)

Sound Levels



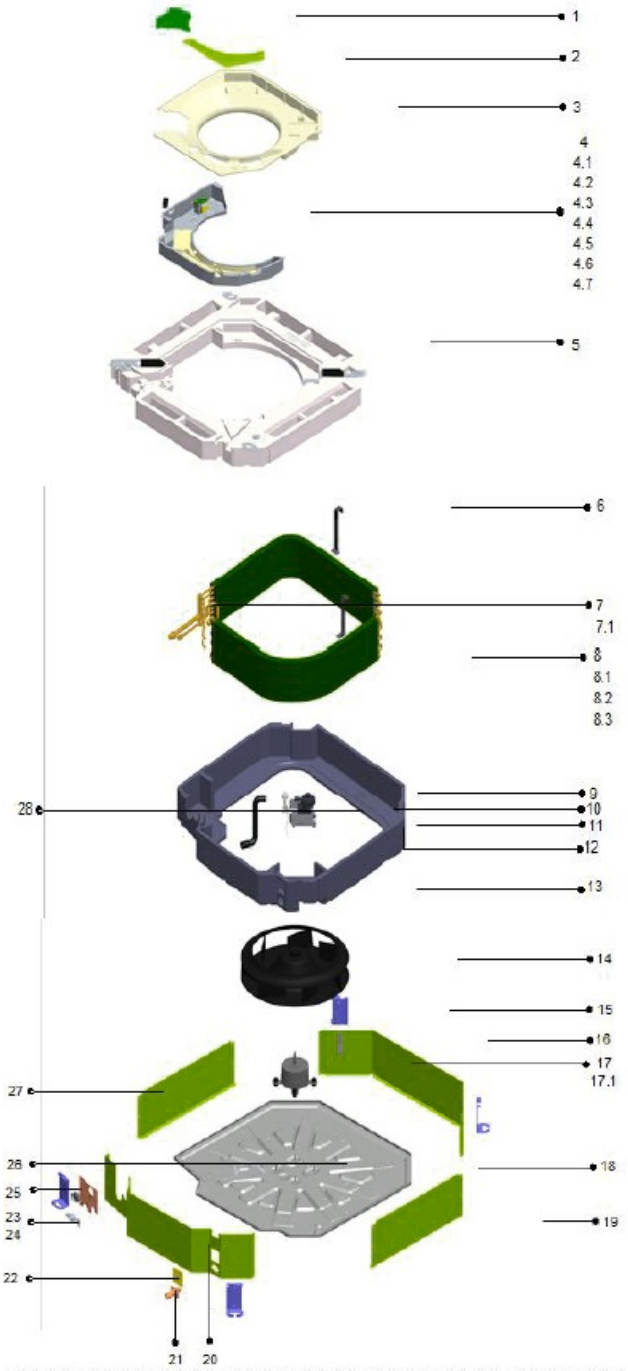
Model	Noise level dB(A)		
	H	M	L
BCC36B13R	52	48	45
BCC60B13R	57	54	51

Accessories

	Name	Shape	Quantity
Installation Fittings	1. Expansible hook		4
	2. Installation hook		4
	3. Installation paper board		1
	4. Bolt M5		4
Tubing & Fittings	5. Connecting pipe group		1
	6. Binding tape		1
	7.Soundproof/insulation sheath		2
Drainpipe Fittings	8. Out-let pipe sheath		1
	10. Tightening band		5
Protect Pipe Fittings	13. Wall conduit		1
	14. Wall conduit cover		1
Remote controller	15. Remote controller		1
	16. Mounting screw(ST2.9×10-C-H)		2
	17. Alkaline dry batteries (AM4)		2

Exploded View

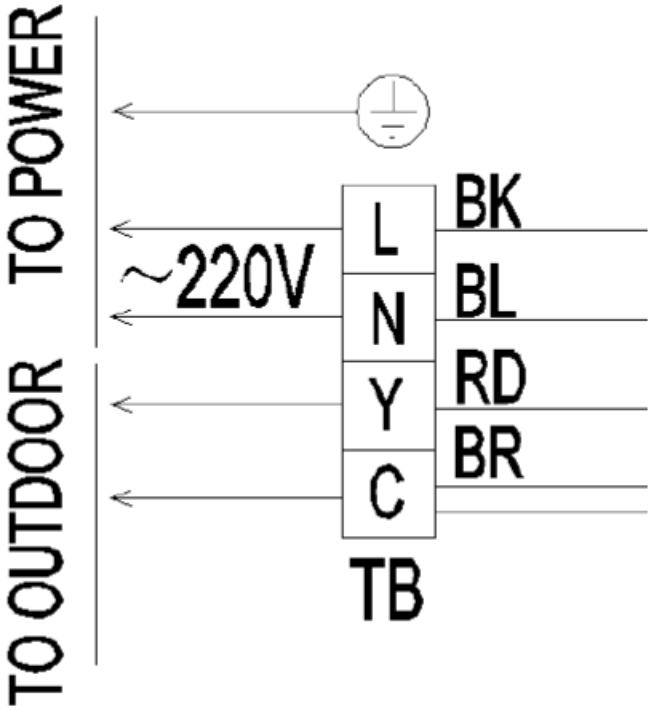
BCC36B13R / BCC60B13R



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Warning panel	1	8.3.4	Installation tube for probe	1
2	Circuit diagram panel	1	9	Water pump	1
3	Small wind inlet guide	1	10	Liquid-level sensor	1
4	E-parts components	1	11	Water pump fan motor holder	1
4.1	E-parts box welding assy	1	12	Underlay for water pump support	3
4.2	No.3 groove clamp	1	13	Upper foam	1

4.3	(ROHS)Transformer	1	14	Centrifugal fan	1
4.4	Fan motor capacitor	1	15	Hanger	4
4.5	Terminal (DJ-75W-3PA)	1	16	Rear brattice	1
4.6	Terminal (DJ-75W-5PA)	1	17	Fan motor for the indoor unit (YDK-55T- 6)	1
4.7	Electric control board for indoor unit	1	17.1	Fan motor foot underlay	1
4.8	E-parts box	1	18	Chassis assy	1
5	Water pan assy	1	19	Right clapboard	1
6	Auxiliary fixing board for evaporator	2	20	Front brattice	1
7	Main fixing board assy	1	21	Discharge pipe joint	1
7.1	Main fixing board for evaporator	1	22	Side maintenance board for water p ump	1
8	Evaporator components	1	23	Lower clamp	1
8.1	Rubber insulating pipe	1	24	Upper clamp	1
8.2	Insulating pipe	1	25	Valve panel	1
8.3	Welding parts for evaporator	1	26	Wire board	2
8.3.1	Collecting pipe assy for evaporator	1	27	Left clapboard	1
8.3.2	Distributing pipe assy for evaporato r	1	28	Water outlet pipe	1
8.3.3	Evaporator	1			

Field Wiring
BCC36B13R



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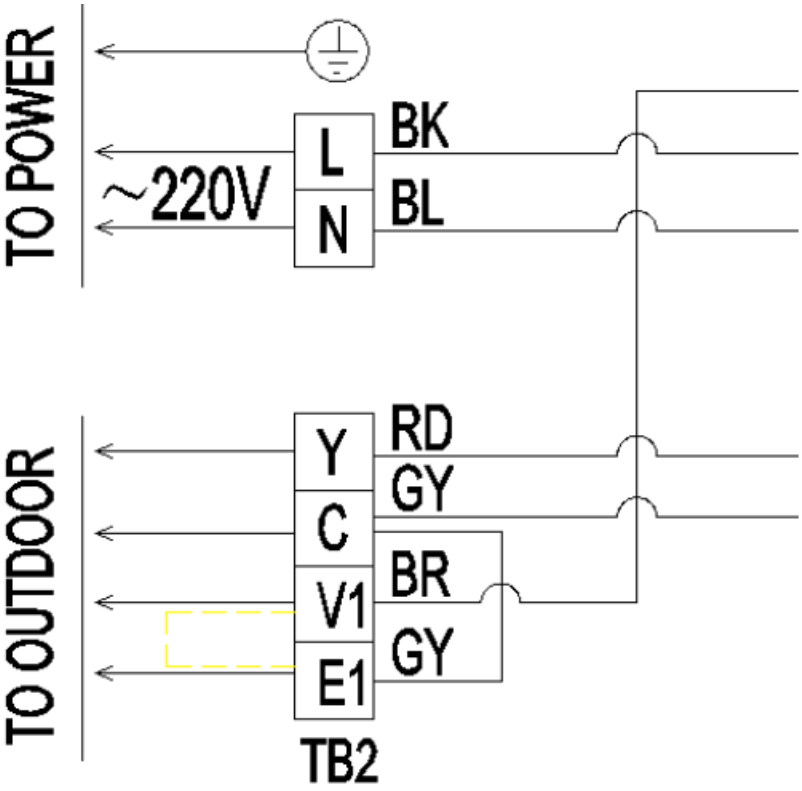

Troubleshooting

Fault Code Table

4LED Faults	Digital display	Failure descriptionction
Timer light flashing	E2	Ambient temperature sensor (T1) failure
Running light flashing	E3	Evaporator pipe temperature sensor (T2) failure
Defrost light flashing	E5	Condenser pipe temperature sensor (T3) failure
Warning light flashing	F5	Water fullfilled protection
Running light, defrost light flashing	E1	Indoor unit and wire controller communication failure
Running light, timer light flashing	P6	Indoor unit EEPROM failure
Defrost light, timer light flashing	F0	Indoor fan stall protection
Defrost light, warning light flashing	F2	Outdoor protection
	F7	outdoor unit over-current protection
Timer light, warning light flashing	E0	Indoor unit and outdoor unit communication failure
Running light, defrost light, timer light flashing	F3	High pressure protection
Defrost light , timer light, warning light flashing	F4	Low pressure protection
Running light, timer light, warning light flashing	F8	Outdoor unit exhaust temperature over-high protection
Running light, defrost light, timer light, warning light flashing	F9	Three-phase electricity phase sequence failure
Note: the flashing frequency for all above indication lights is 1HZ.		

E0: Indoor unit and outdoor unit communication failure Solution:

1. Check the communication cable between the indoor unit and the outdoor unit, if it is a short connection or broken;
2. Check whether the communication cable is connected corrected or not, if not, correct it;
3. If the cable and connection are both correct, check the connected lines from the communication terminal to the main board are corrected or not, if not, correct it
4. If all the above steps are done, still not solved change the indoor or outdoor main board

E1: Outdoor unit failure

- Check the details of the failure at the outdoor unit.

E2: Indoor ambient temp. sensor fault (T1 sensor) Solution:

1. Check the T1 sensor connection is loosened or not, and inset it firmly, if not solved, go to next step;
2. Take out the sensor, and measure the resistance of the sensor, it is about 5KΩ at 25℃, if not, replace it; if resistance normally, change the indoor main board.

E3: Indoor evaporator pipe temperature sensor (T2) failure Solution:

1. Check the T2 sensor connection is loosened or not, and inset it firmly, if not solved, go to next step;
2. Take out the sensor, and measure the resistance of the sensor, it is about 5KΩ at 25℃, if not, replace it; if the resistance is normal, change the indoor main board

E5: Condenser pipe temperature sensor (T3) failure Solution:

1. Check the T3 sensor connection is loosened or not, and inset it firmly, if not solved, go to next step;
2. Take out the sensor, and measure the resistance of the sensor, it is about 5KΩ at 25℃, if not, replace it; if the resistance is normal, change the main board

F2: Outdoor unit protection

- Solution:
- Follow the F3/F4/F8/F9.

F3: High pressure protection
Solution:

1. If the unit does not have a high-pressure switch, change the outdoor main board; if it has, go to next step
2. Take out the high-pressure switch, and measure its resistance, it is about 0Ω, if not, replace it; otherwise, go to next step;
3. Short-connect the high-pressure switch port on the outdoor board, if it still shows P1, replace the outdoor main board; otherwise, go tothe next step;
4. Connect the pressure gauge to test the high pressure, if it is really too high, may be caused by too much refrigerant or other gas getting inside the system

F4: Low pressure protection
Solution:

1. If the unit does not have a low-pressure switch, change the outdoor main board; if it has, go to the next step
2. Take out the low-pressure switch, measure its resistance, and confirm whether it is about 0Ω, if not, replace it; otherwise, go to the next step;
3. Short-connect the low-pressure switch port on the outdoor board, if it still shows P2, replace the outdoor main board; otherwise, go to the next step;
4. Connect the pressure gauge to test the low pressure, if it is really too low, may be caused by a lack of refrigerant or leakage in the refrigerant system

F5: Water fulfilled protection (Alarm of condensing water overflow)
Solution:

1. If the unit does not have a water drainage pump:
    - a) Check whether the water level switch short short-connected or not, if not, short-connect it, if it is still not solved, change the main board
2. If the unit has a water drainage pump:
    - a)Check the water level switch if it is connected well, inset it firmly; then check if the switch is blocked or not, if it is blocked, replace it, otherwise go to the next step
    - b) Check the connection between the pump and the main board if it is 220-240V, if it is, change the water pump; if not, change the indoor main board

F7:Ourdoor overcurrent protection
Solution:

1. Check the dial switches is setting corrected or not according to the wiring diagram, if not, set it corrected; if correct, go to the next step
2. Check the condenser whether it is in good ventilation, if not, remove the blockage; otherwise, go to the next step.
3. Measure the current with a multimeter, and check the current via the unit check data also, compare these two data, if they are quite different, change the outdoor main board;
4. If all the above steps are done normally, it may cause the damaged compressor or refrigerant system blocked or dirty or other gas to get inside the system

F8: Outdoor unit exhaust temperature over-high protection
Solution:

1. Check whether the T5 sensor connection is loosened or not, and inset it firmly, if not solved, go to next step;
2. Take out the exhaust sensor (T5) from the main board, and measure its resistance, it is about 50KΩ at 25℃, if not, change the sensor; if it is, go to the next step
3. Remove the sensor from the compressor, if it is still not solved, change the main board
4. If all the above steps are done normally, it may be caused lack of refrigerant or damaged compressor or refrigerant system being blocked or dirty or other gas get inside the system.

F9: Three-phase electricity power phase sequence failure
Solution:

1. Check whether the 3-phase power connection lines are connected well or not
2. Using the meter to measure the voltage (L1&N, L2&N, L3&N), all of them should be 220V, if not, correct the power supply, otherwise go to next step;
3. If the power supply is corrected, change the main board

P6: EEPROM failure

- Change the indoor mainboard

FAQ

- **Q: Can this product be connected with ducts to another room?**
  - **A:** Yes, this product has interfaces in the body that can be connected with ducts to another room for improved air quality.
- **Q: What is the minimum height required for installation?**
  - **A:** The minimum height required for installation is only 230mm due to the ultra-thin body design of the unit.
- **Q: Is the wireless controller included with the standard package?**
  - **A:** Yes, a wireless controller is included as standard; however, a wired controller is optional.

Documents / Resources

	ZenAire BCC36B13R 4 Way Cassette Mini Splits [pdf] Instruction Manual BCC36B13R, BCC60B13R, BCC36B13R 4 Way Cassette Mini Splits, BCC36B13R, 4 Way Cassette Mini Splits, Cassette Mini Splits, Mini Splits

References

- User Manual