

Product Manual

DBA-UTC20
DBA-UTC55
DBA-UTC68
DBA-UTC120

Ceiling Mounted Dehumidifier



DBA Ceiling Dehumidifier User Manual - UTC Series

**This manual provides essential information for safe installation, operation, and maintenance. Please read it carefully before use.
For assistance, contact DBA support.**



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Important Safety Instructions

- To ensure safe operation and prevent risk of electric shock, fire, or injury, observe the following precautions at all times.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.
- Use only a properly grounded 220-240V~ 50Hz electrical outlet. Do not modify the power cord or plug, and avoid using extension cords or adapters, as they may overheat and cause fire or electric shock.
- Disconnect power before servicing, cleaning, or moving the unit. Always unplug by grasping the plug—do not pull the cord.
- Install and operate the unit in accordance with local building and electrical codes. Professional installation by a qualified technician is strongly recommended.
- Do not insert fingers or objects into air inlets or outlets. Keep vents clear of obstructions.
- Do not expose the unit to flammable gases, corrosive substances, excessive dust, or direct water contact. It is not suitable for use in explosive or highly corrosive environments.
- If the power cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons to avoid hazard.
- In the event of abnormal operation (e.g., unusual noise, odor, or smoke), immediately disconnect power and contact authorized service personnel.
- Failure to follow these instructions may result in electric shock, fire, or equipment damage. Retain this manual for future reference.

Refrigerant Information & Safety Warning

The type of refrigerant used in your model is indicated on the rating label located on the unit. Models using **R410A** refrigerant do not contain flammable refrigerant.



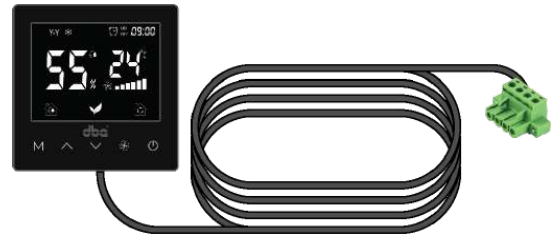
Some models use **R32** or **R290** refrigerant, which is classified as mildly flammable. If your unit uses **R32** or **R290** observe the following precautions:

- **Warning: Risk of fire. Flammable refrigerant used.**
- Installation and servicing must be performed by qualified personnel only.
- Install, operate, and store the appliance in a well-ventilated area.
- Do not use means to accelerate defrosting or cleaning other than those recommended by the manufacturer.
- Do not pierce or burn the refrigerant circuit.
- Dispose of the appliance in accordance with local regulations.

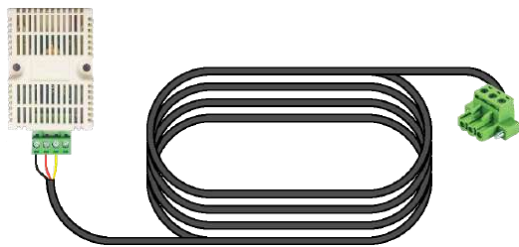
Package Contents



1. Dehumidifier
(5m Power Cable with Type G Plug)



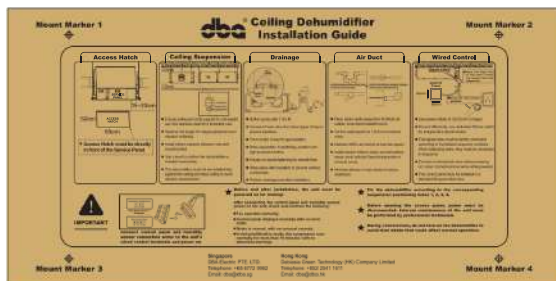
2. Control Panel
(8m Cable)



3. Humidity Sensor
(5m Cable)

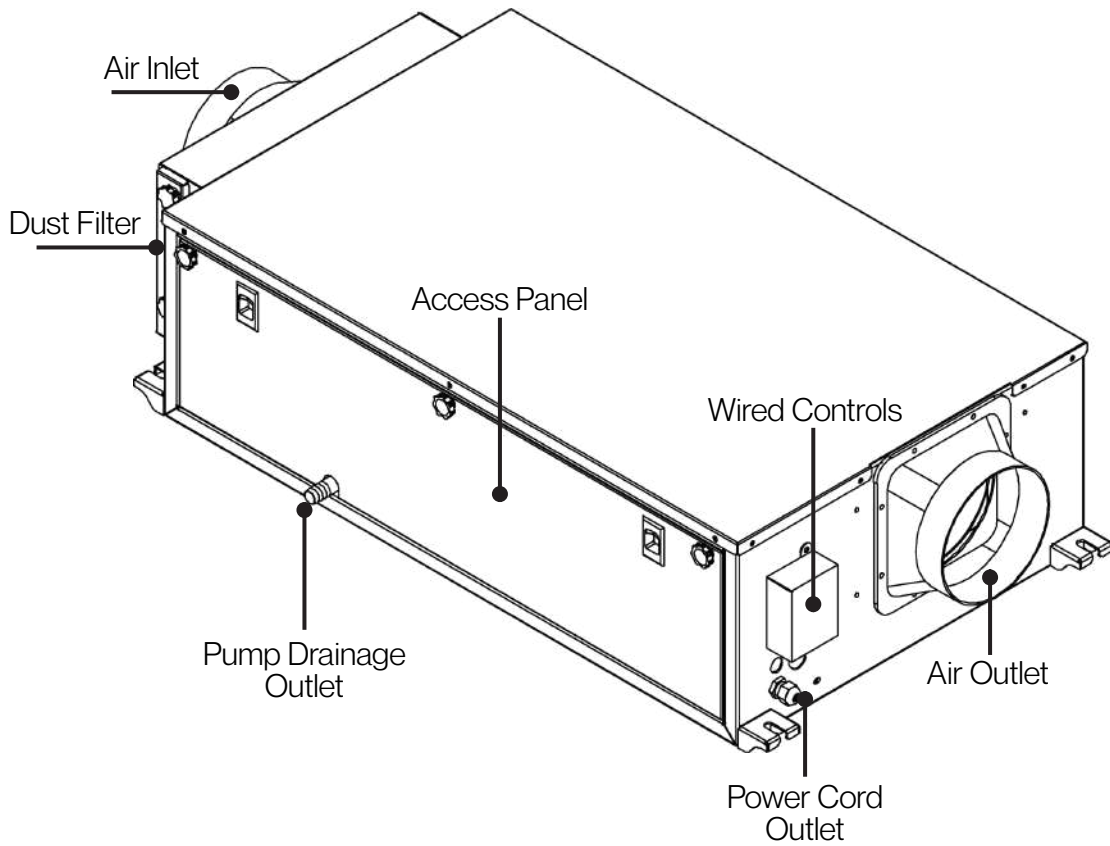


4. Remote Controller
(2 Triple A Batteries)

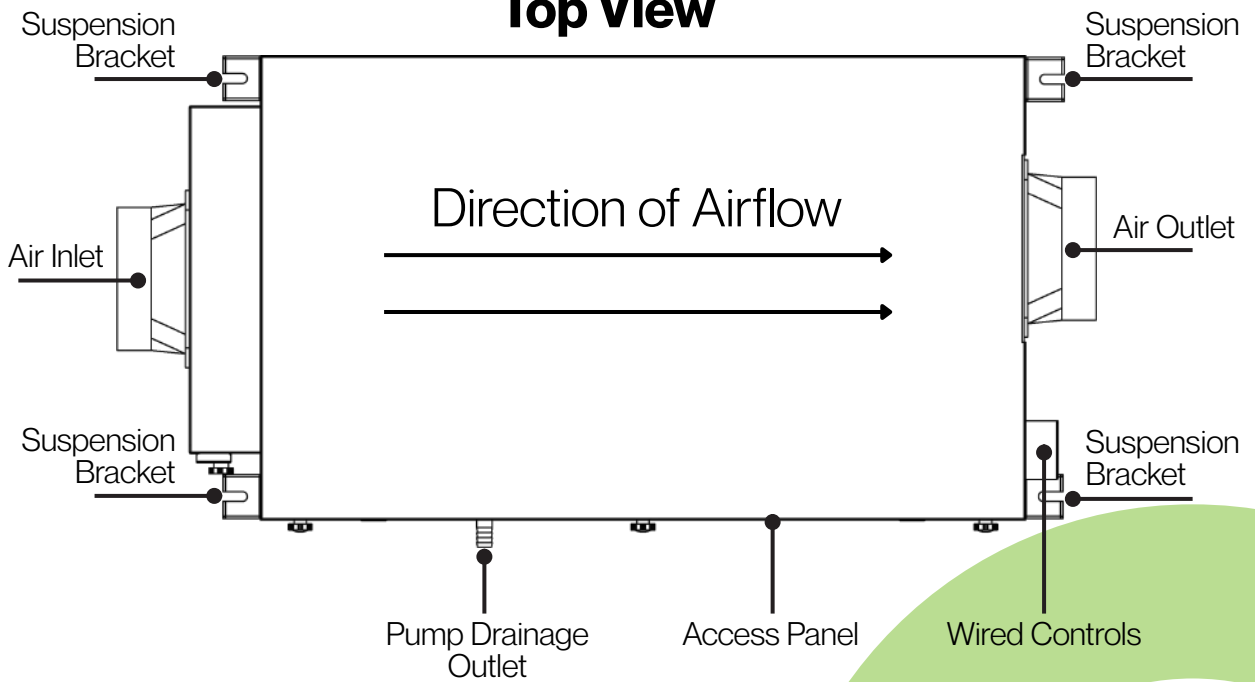


5. Installation Guide

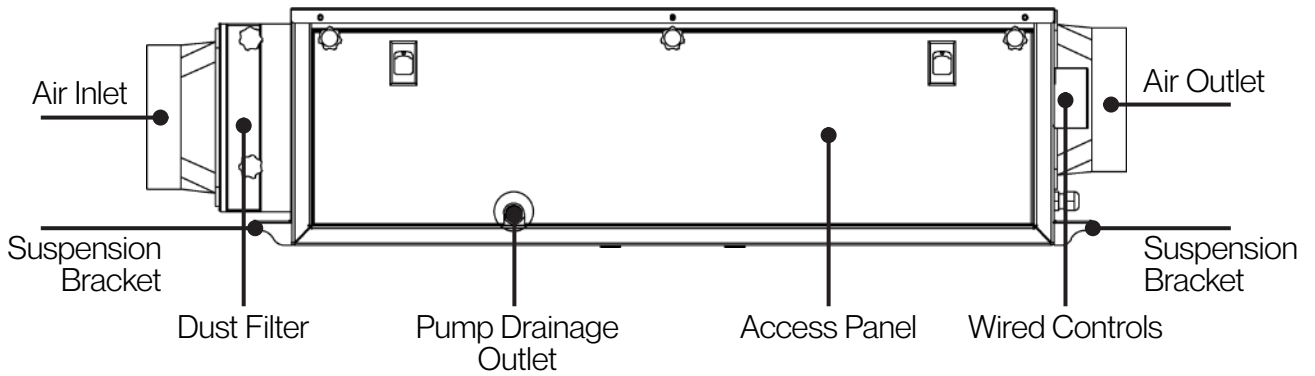
Isometric View



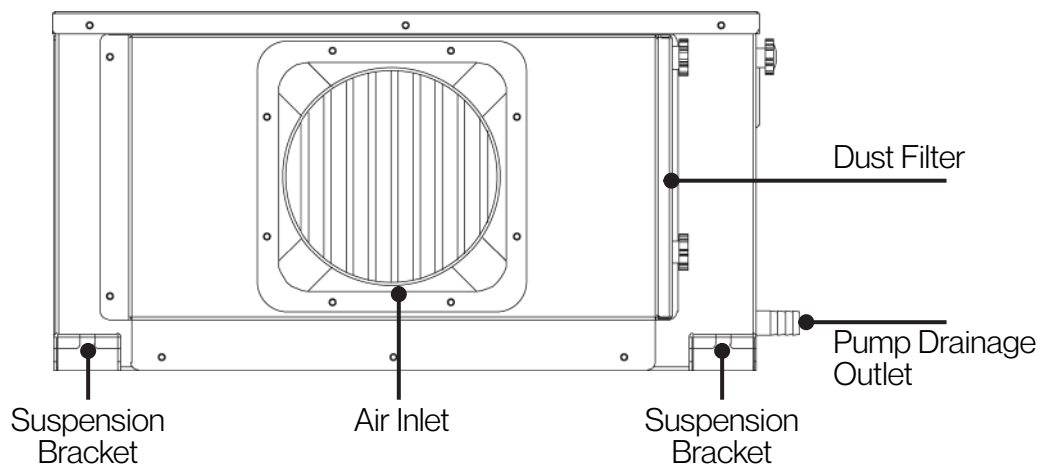
Top View



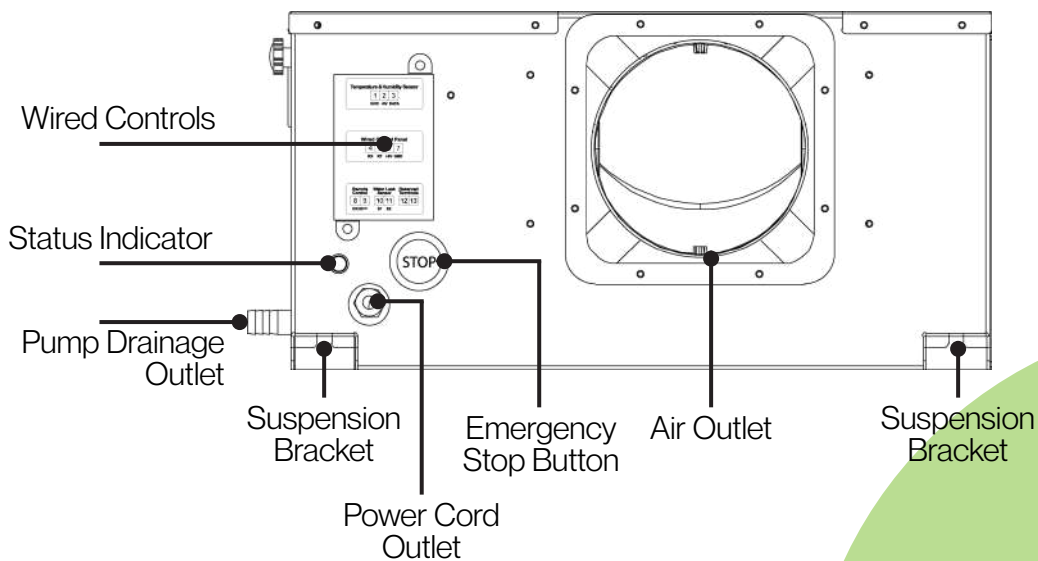
Side View



Front View



Rear View



Precautions Before Installation

Professional installation is strongly recommended for safety, performance, and warranty validity. Improper setup can cause noise, leaks, reduced efficiency, or damage.

Planning and Site Survey

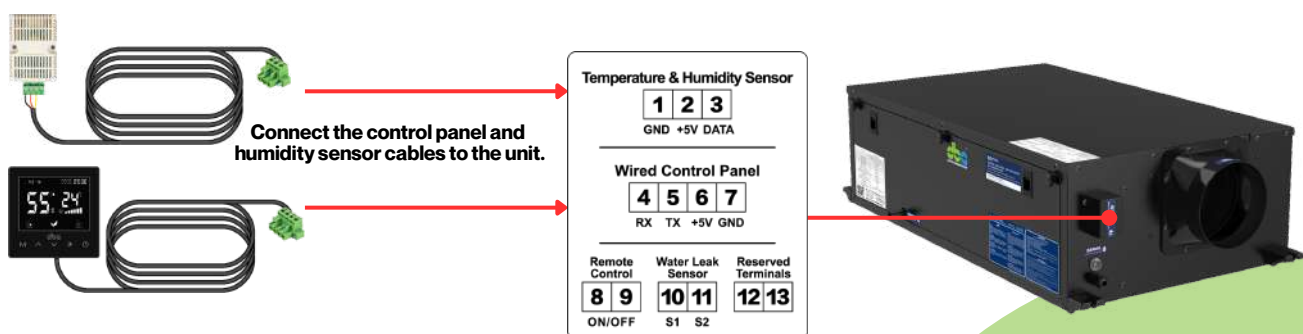
- Assess the space early: Consider unit placement, duct routing, noise impact, structural support, airflow, and future maintenance.
- Coordinate with interior designers, electricians, and AC pros to align on design.
- Install in non-living areas (e.g., storage room, bathroom, kitchen ceiling) for quiet operation.

Handling and Unpacking

- Handling and Unpacking
- Transport and store level — never tilt or invert to avoid compressor damage.
- Protect from dust if storing on-site after unpacking.
- Inspect upon arrival: Check for damage, missing parts, manual, warranty card, and accessories. Report issues immediately.

Pre-Installation Power Test (**Mandatory!**)

- Test the unit on the ground.
- Connect the control panel and humidity sensor cables to the unit.
- Plug in and power on.
- Verify: Fan runs smoothly, display works, no strange noises, air warms slightly in dehumidify mode (compressor OK).
- After testing (or final install), cover air inlets/outlets with plastic bags to keep out dust.



Materials Needed for Installation

Recommended Mounting Components:

Stainless Steel M10 Sleeve Anchors × 4

Used to securely fix the threaded rods into the concrete ceiling slab. Drill matching holes, insert, and tighten for a firm hold.



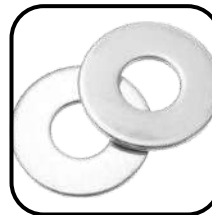
Stainless Steel M10 Hexagonal Nuts × 12

Essential for adjusting height, leveling the unit, and locking everything in place.



Stainless Steel M10 Flat Washer × 12

Distribute load evenly and protect surfaces.



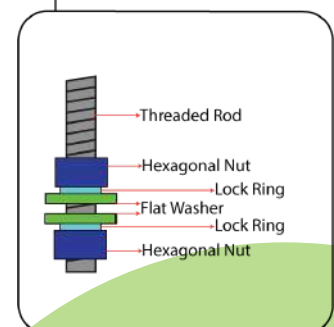
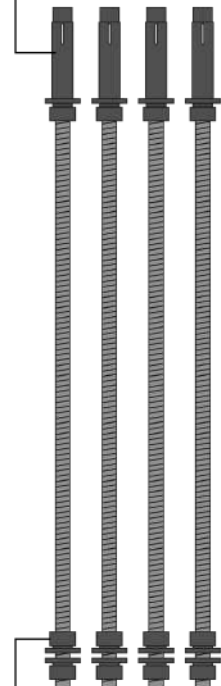
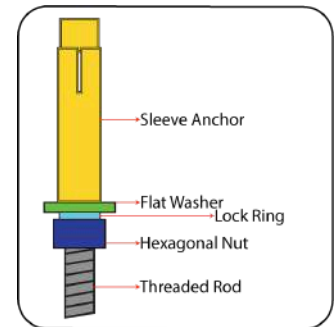
Stainless Steel M10 Lock Rings × 12

Prevent nuts from loosening due to vibration.



Stainless Steel M10 Threaded Rods × 4

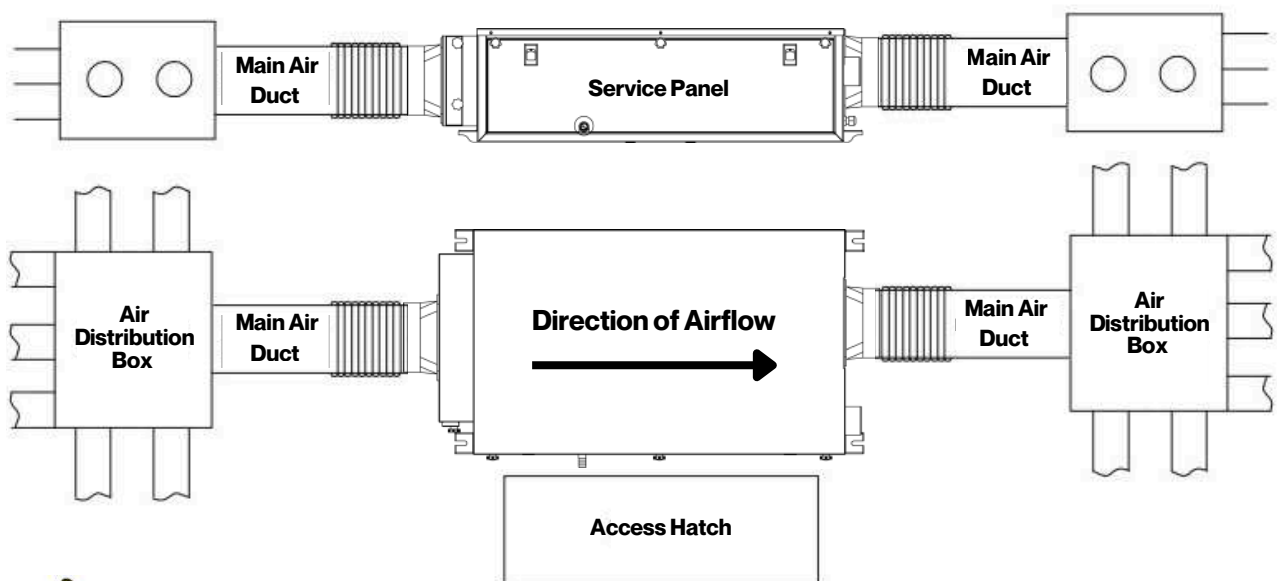
The main support rods that hang the unit. (Cut to required length, typically 1-2 meters)



These practical tips ensure efficient dehumidification, quiet operation and easy maintenance.

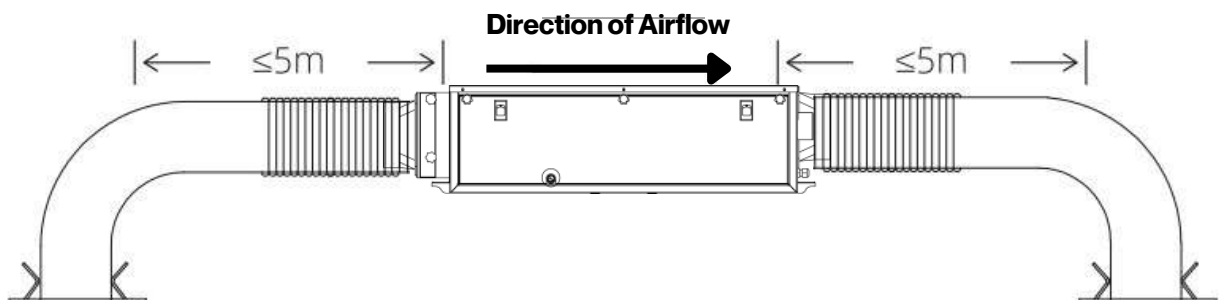
Ducting and Airflow

- Recommended Duct Type: Use flexible aluminum foil ducts for most runs—they're lightweight, easy to install and minimize noise.
- For longer or rigid sections, opt for galvanized metal ducts.
- Limit total main duct length (supply + return) to $\leq 10\text{m}$.
- Max 5 supply vents and 5 return vents.
- Branch ducts: $\geq 75\text{mm}$ diameter.

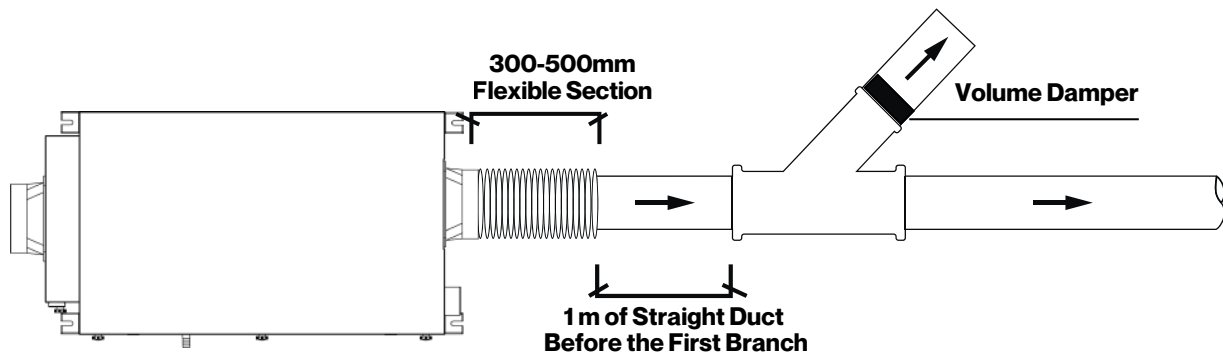


Precautions:

Dehumidifiers with a dehumidification capacity $\leq 20\text{L/D}$ shall install the air duct as follows:

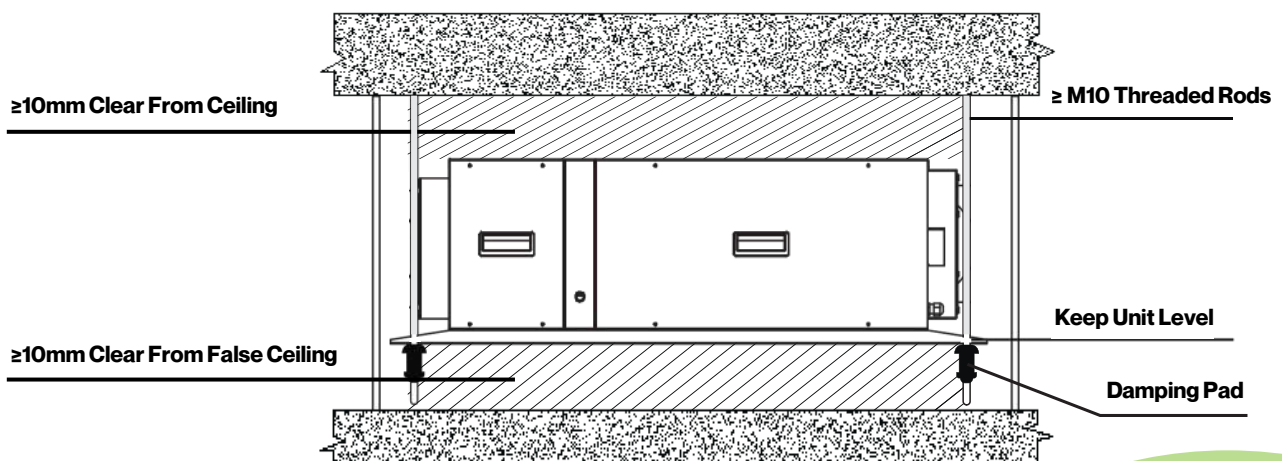


- Critical: Vibration Isolation — Always connect the unit's flanges to ducts using a 300-500mm flexible section, this prevents compressor's vibration and noise from traveling to vents and rooms.
- For even airflow, avoid sharp bends, recommended 1 m of straight duct before the first branch.
- Install manual volume dampers on each supply vent for airflow balancing (pressure difference $\leq 15\%$ across branches).



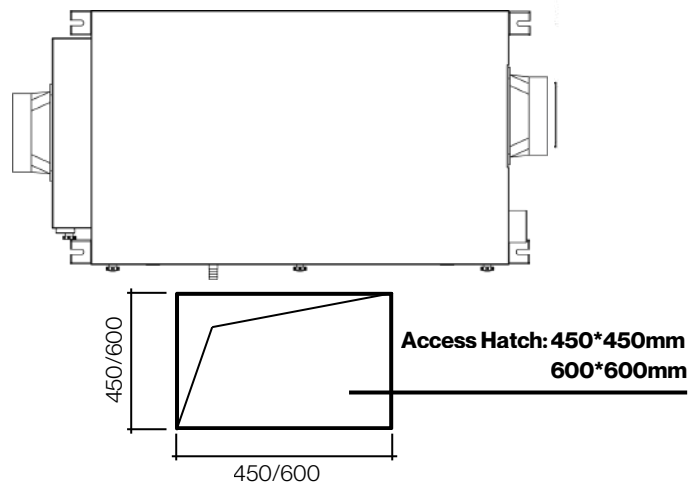
Mounting and Noise Reduction

- Hang with M10 stainless steel threaded rods and rubber vibration isolators/pads at the hanging ears for ultra-quiet performance.
- Keep unit perfectly level and $\geq 10\text{mm}$ clear from ceiling/floor.
- Avoid direct contact, ensure no part of the unit or rigid ducts touches joists, beams, or walls without isolation.



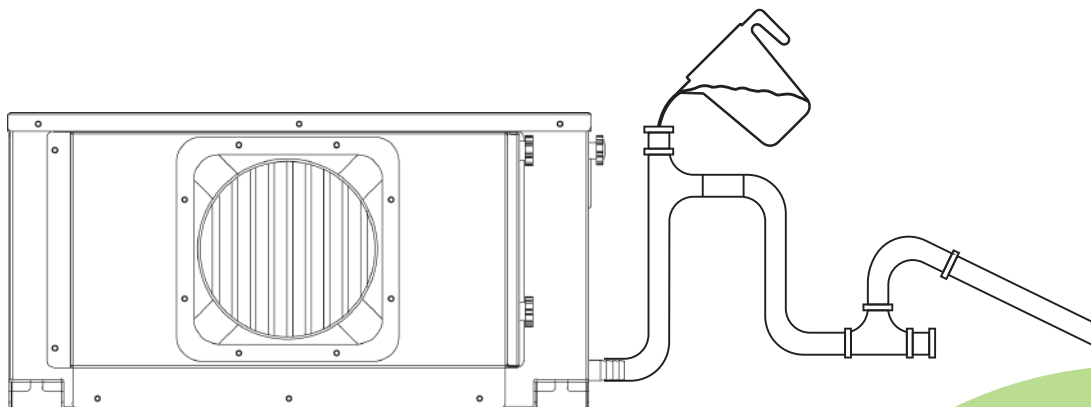
Maintenance Access

- Easy access is essential for long-term performance. Regular checks (every 3-6 months) include cleaning the air filter, inspecting coils, and ensuring drainage works.
- Install a 450×450mm or 600×600mm access hatch directly in front of the drainage outlet side for filter changes and servicing.
- Ensure clear space around the unit (at least 450mm) inside the ceiling void.

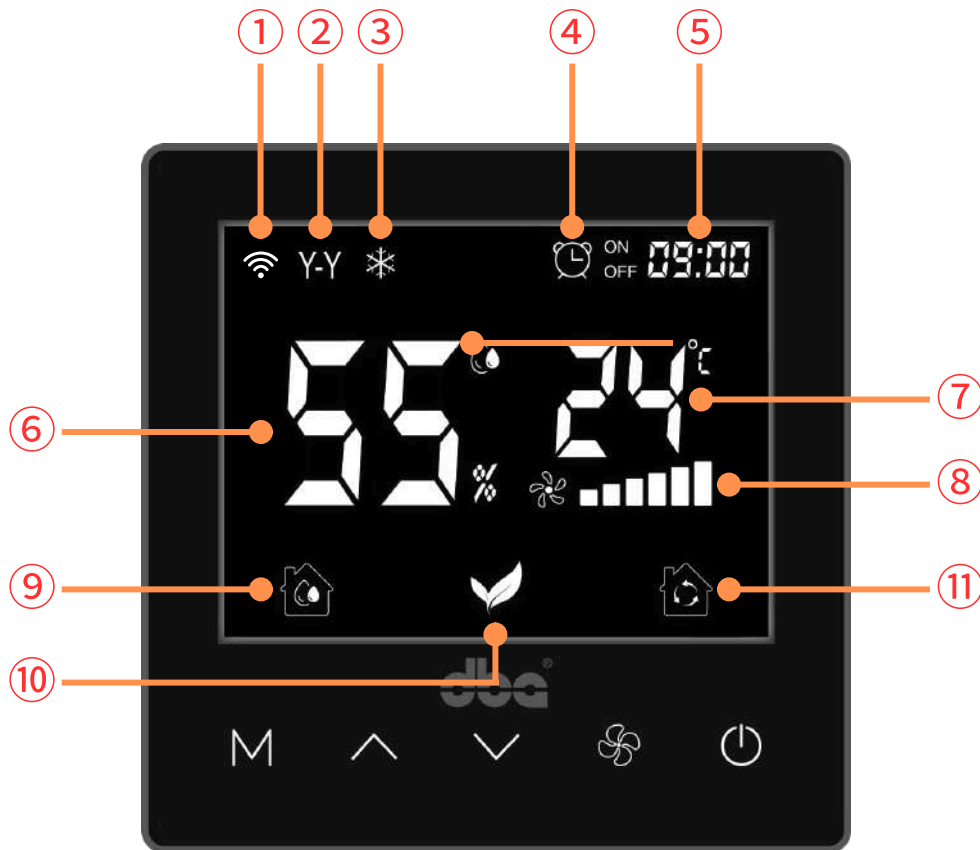


Drainage

- The built-in pump lifts water up to 1.2m.
- Connect insulated drain hose with a check valve followed by a U-trap to block backflow and odors.
- Test drainage thoroughly after installation.



Control Panel Overview



	Display Icons	Function Description
①	WiFi Connection	Indicates WiFi connection and app pairing mode.
②	Mainboard Disconnection Indicator	Indicates communication fault between panel and mainboard.
③	Defrosting	Defrosting mode active.
④	Timer	Timer function enabled (ON/OFF).
⑤	Time Display	Displays current time and timer setting.
⑥	Humidity	Displays current room humidity (%)
⑦	Temperature	Displays current room temperature (°C)

	Display Icons	Function Description
⑧	Fan Speed (High/Low)	Indicates fan speed (high/low)
⑨	Dehumidify/Vent Mode	Indicates current operating mode (dehumidify or ventilation)
⑩	UV Purification	UV lamp (if equipped) is active
⑪	Power On Indicator	Unit is powered on

Power Button

Turns the unit on and off.

- In standby state, press  to power on the unit.
- When the unit is running, press  to enter standby mode.


Fan Speed Button

Adjusts fan speed between high and low.

- Press  to toggle between high-speed and low-speed operation.
- The current fan speed is indicated by icon  on the display.




M **Mode Button**

Switches between Ventilation mode and Dehumidification mode.

- Press **M** repeatedly to cycle through the modes. Dehumidification mode is shown by .
- Long-press the **M** for 3 seconds to enter clock and timer settings (see Timer section for details).


Humidity Setting Buttons

Set target humidity level.

- Press  to enter humidity setting mode, then continue pressing or  to  increase or decrease the desired humidity value.
- Adjustable range: 10%–95% RH.
- After 5 seconds of inactivity, the setting is confirmed and the display returns to showing current humidity.



UV Lamp Button

Turns UV lamp on and off.

- Press  to turn the UV lamp on or off.


Operating Modes

Power On / Off

- When the unit is powered on, press the Power  button to place the unit into standby mode. Control buttons and some icons will turn off.
- Press the Power  button again to start the unit. Upon start-up, the fan operates at High Speed by default.

Compressor Delayed Start: Each time the start conditions are met, the fan starts immediately, and the compressor starts after a 3-second delay.

Operating Mode Selection

- Upon power-up, the unit defaults to Dehumidification Operation.
- Press the Mode  button to switch to Ventilation Operation.

Dehumidification Operation



- The compressor operates automatically in accordance with the set humidity level.

Ventilation Operation


- Only the fan operates.
- The compressor remains off.

Clock and Timer Settings

Clock Setting

- Press and hold the Mode  button to enter clock setting mode.
- Use the Up / Down buttons to adjust the hour.
- Press the Mode  button to confirm and adjust the minutes.

Timer Setting

- Press the Mode  button to set the ON timer (automatic power-on time).
- Press again to set the OFF timer (automatic power-off time).
- After all settings are completed, the system will automatically exit setting mode and save the values after 5 seconds.

Timer Operation

- Once configured, the unit will operate automatically according to the programmed ON/OFF schedule each day.
- To cancel the timer function, set both the ON and OFF time values to 00:00.

Note: Compressor Start-Delay Protection

After the compressor stops, it will automatically restart after a 3-minute delay to protect the compressor.

Operating Modes

Fan Speed Control

- After start-up, the fan operates at High Speed by default.
- Press the Fan Speed button to toggle between High Speed and Low Speed operation.

Drain Pump Operation

- During normal operation, the built-in drain pump operates automatically according to the following cycle: ON for 3 minutes, OFF for 5 minutes
- This operating cycle repeats continuously while the unit is running.

Automatic Defrost Control

When the unit enters Automatic Defrost Operation, the following behaviour applies:

- The compressor stops.
- The fan continues to operate at High Speed.
- The display indicates that defrosting is active.

Conditions for Entering Defrost Operation

Automatic defrost is initiated when both of the following conditions are met:

- The compressor has been operating continuously for 25 minutes.
- The evaporator (coil) temperature is detected at $\leq -1^{\circ}\text{C}$ for 30 seconds.

Conditions for Exiting Defrost Operation

The unit exits defrost operation when either of the following conditions is met:

- The maximum defrost duration reaches 8 minutes.
- After 3 minutes of defrost operation, the evaporator temperature rises to $\geq 5^{\circ}\text{C}$.

Sensor Fault Protection

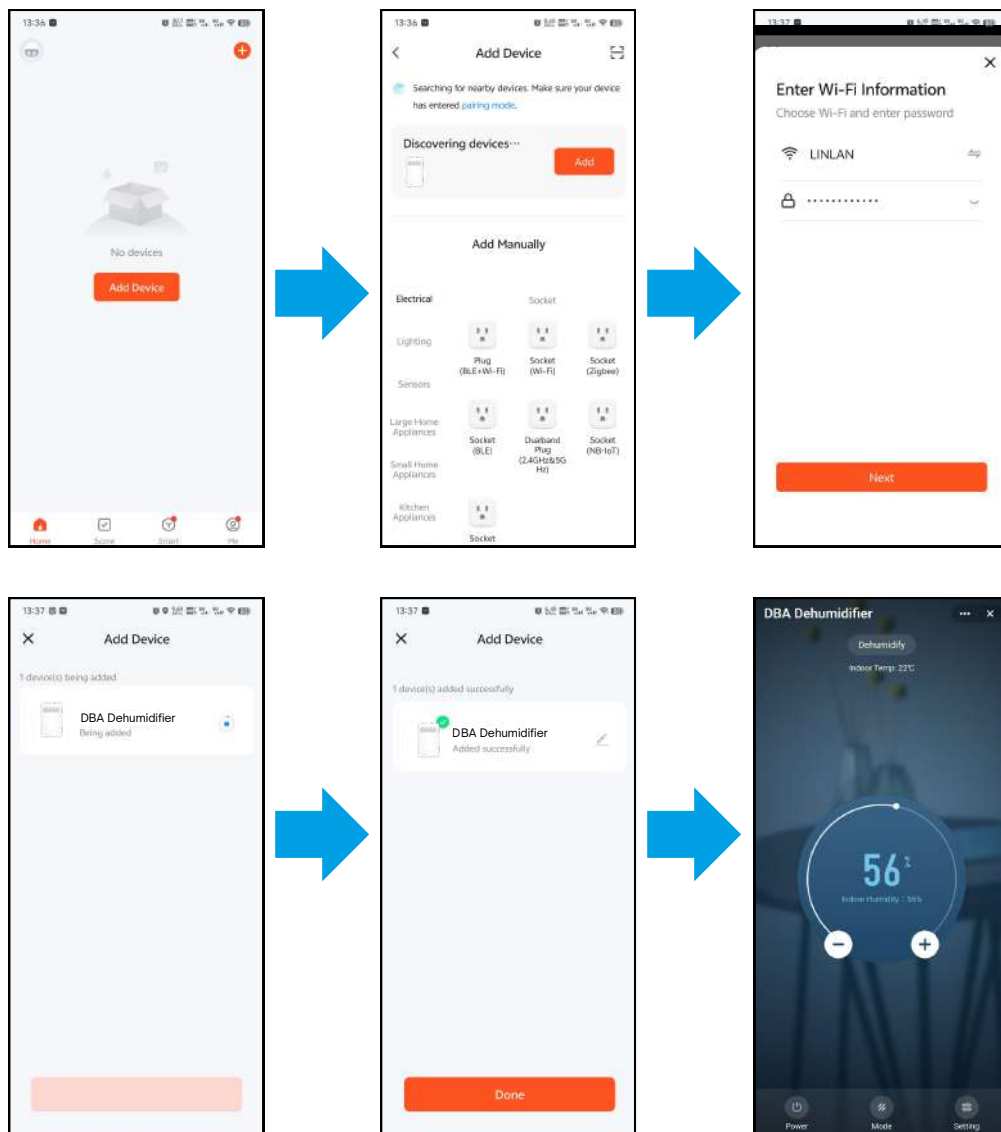
If the evaporator temperature sensor malfunctions (Error Code: E1), the system switches to timed defrost operation:

- Compressor operation: 25 minutes
- Defrost operation: 8 minutes



App Pairing Instruction

1. Open app store, download the TUYA smart APP, install and register user accounts.
2. On your phone, turn on Bluetooth and connect to local WiFi, make sure the WiFi is in 2.4 GHz instead of 5GHz.
3. Turn on the dehumidifier, press and hold the wind speed button until the WiFi indicator flashes, and then the dehumidifier is in app pairing mode.
4. Open the Tuya smart APP and click 'Add Device'. At this time, the application searches for the dehumidifier device. After searching for the dehumidifier device, add it and enter the a WiFi user name and WiFi password. The application will automatically add the device. After successfully adding, you can enter the mobile control interface.



App features depend on network conditions and third-party service availability. The manufacturer is not responsible for service interruptions caused by internet, router, or cloud platform issues.

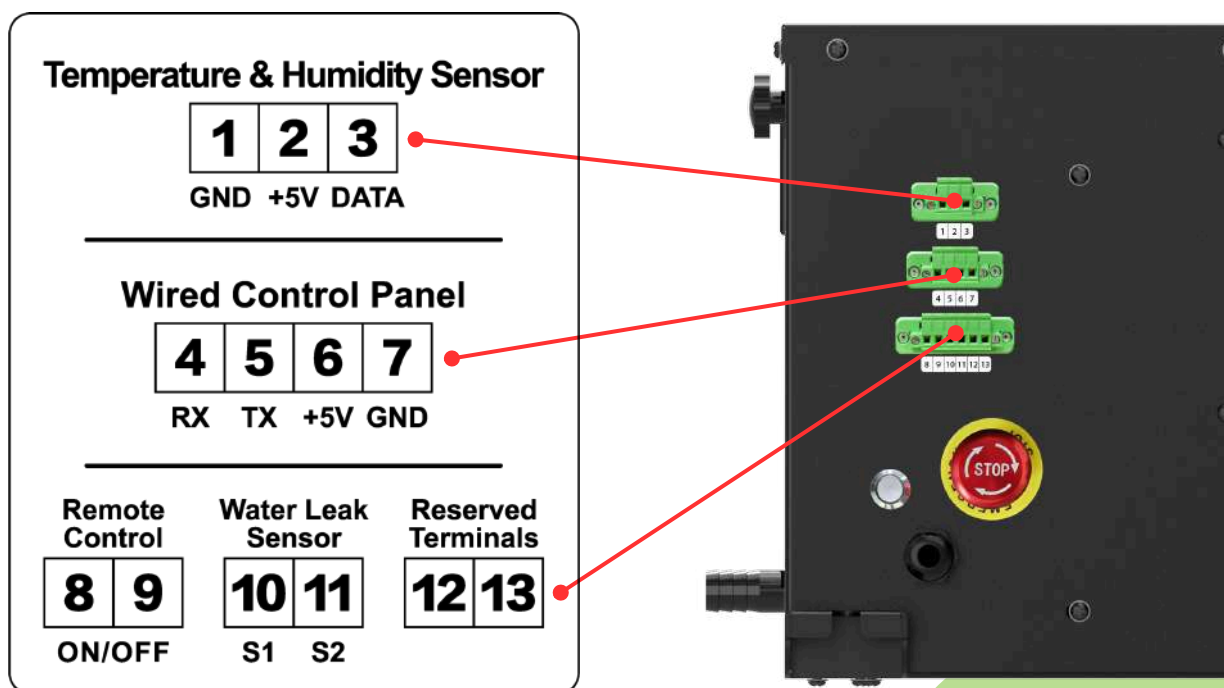
The wired control terminals allow connections for humidity sensors, control panel and inputs such as remote control or water leak detection.

Important Warning: Terminals are labeled to avoid confusion. Improper wiring can damage the unit, void the warranty, or cause hazards like shock or fire. Always disconnect power before wiring.

Safety Note: Do not apply any external voltage or power source to terminals—this can backfeed into the motherboard and cause damage. Terminals 1-7 provide power output and signals for humidity sensor or control panel only. Terminals 8-13 are passive signals (dry contact)—these ports do not require or accept any power; use unpowered switches, probes, or wires only. If unsure, contact DBA support.

Accessing the Terminals

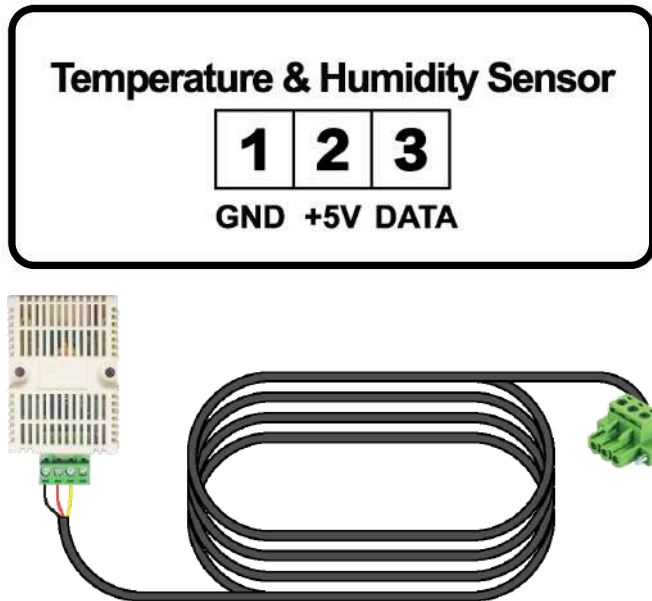
1. Power off and unplug the dehumidifier.
2. Locate the wired control box.
3. Unscrew the 2 screws with a screwdriver.
4. Remove the cover to expose terminals.
5. Make secure connections, then reattach cover and restore power.
6. Test safely before use.



Terminal Connections

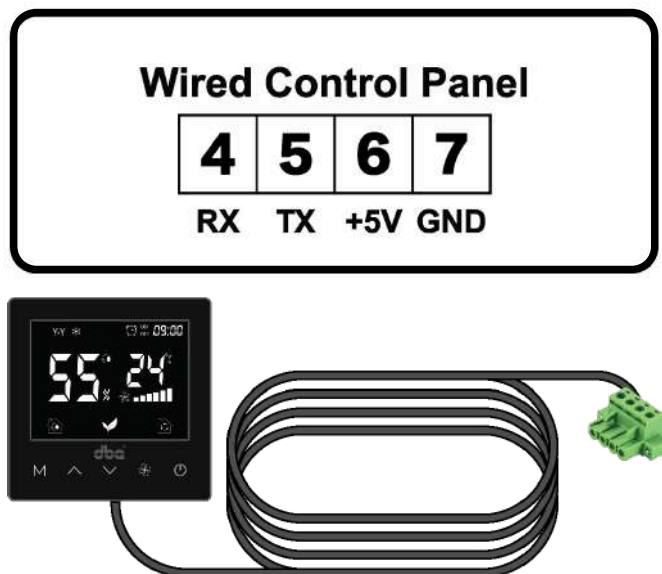
1. Temperature and Humidity Sensor (Terminals 1, 2, 3)

Function: For reading temperature and humidity levels.



2. Wired Control Panel (Terminals 4, 5, 6, 7)

Function: Enables communication for display of ambient temperature and humidity level, and settings of humidity levels, fan speed and modes.



3. Remote Control - Dry Contact (Terminals 8, 9)

Function: Allows remote on/off toggling via an external dry contact switch or relay. Suitable for integration with building management systems (BMS) or safety interlocks, such as fire alarm shutdown.

- **Default Setting (NO): Short = unit on; open = unit off.**
- **Alternative Setting (NC): short = unit off; open = unit on. (NO/NC configurable via wired control panel)**



4. Water Leak Sensor (Terminals 10, 11)

Function: This input detects water presence through conductivity between the terminals. Connect the two black sensing wires from a standard leak detection cable (also known as sensing rope or leak cable) to terminals 10 and 11. Moisture bridging any point along the cable triggers automatic shutdown and an error (E7) display on the control panel. The unit remains off until the leak is resolved. Suitable for laying the cable in high-risk areas like floors, drains, drip tray or around equipment to prevent water damage.



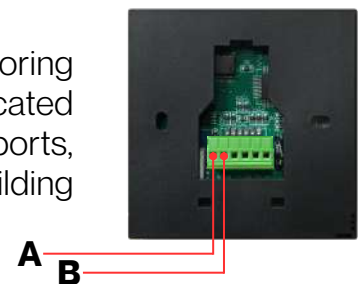
5. Reserved Terminals (Terminals 12, 13)

Function: Provides unassigned connections for potential future expansions or custom integrations, such as additional input/output signals. Do not use without manufacturer approval or specific instructions.



6. RS485 Modbus (baud rate 9600bps)

Function: Support RS485 Modbus protocol for remote monitoring and control of the dehumidifier. The A and B ports are located behind the control panel next to the GND, +5V, TX and RX ports, they allow integration with smart home systems or Building Management Systems (BMS).



Fault Code and Description

Fault Code	Fault Description
E1	Evaporator coil temperature sensor fault
E2	Temperature and humidity sensor fault
E3	Water full protection
E4	Low refrigerant pressure protection
E7	Water Leak Sensor Triggered
E8	High exhaust temperature protection
E9	Discharge temperature sensor fault

Troubleshooting

Problem	Possible Causes	Solutions
Unit Does Not Operate	Power outage	Restore power supply
	Power switch not turned on	Turn on the power switch
	Power plug not inserted into outlet	Insert the plug firmly into the outlet
	Blown fuse	Replace the fuse
	Ground wire not properly connected	Ensure proper grounding
Poor Dehumidification Performance	Air filter clogged with dust	Clean the air filter
	Air inlet or outlet blocked	Remove obstructions
	Doors or windows open	Close doors and windows
	Refrigerant leakage	Contact the supplier
Water Leakage	Unit not level	Level the unit
	Drain hose blocked	Clear the blockage
	Drain pump malfunction	Contact the supplier
Abnormal Noise	Air filter blocked	Clean the air filter
	Unit mounted without vibration isolation	Add vibration-damping pads

Notes

- 1.If the above issues cannot be resolved and servicing is required, contact the supplier or an authorized service center. Do not disassemble or repair the unit yourself.
- 2.During operation or shutdown, circulation sounds of the refrigerant may be heard. This is normal and not a malfunction.
- 3.Warm air discharged from the air outlet is normal during operation.

Before performing any maintenance, turn off the power and unplug the unit from the power outlet.

1. Cleaning the Air Filter

If excessive dust accumulates on the air filter, airflow will be reduced and dehumidification performance will decrease. The filter must be cleaned regularly and checked at least once every two weeks. In dusty environments, clean the filter weekly or even daily if necessary.

When cleaning, gently tap the filter or use a vacuum cleaner to remove dust. Alternatively, wash the filter in warm water ($\leq 40^{\circ}\text{C}$) with a small amount of neutral detergent, rinse thoroughly with clean water, and allow it to air-dry completely.

Notes:

- a. Do not expose the filter to direct sunlight or heat sources to prevent deformation.
- b. Ensure the air filter is properly installed before operating the dehumidifier.

2. Cleaning the Unit

(1) Wipe the unit with a soft, clean, dry cloth.

(2) If the unit is heavily soiled, wipe it with a mild detergent, then use a clean cloth dampened with water to remove any detergent residue.

Do not use solvents, abrasive powders, or polishing agents, as these may damage the surface.

(3) Do not rinse or wash the unit with water, as this may cause insulation failure and electric shock.



Warranty Card

Product Type

Ceiling Mounted Dehumidifier

Model No.

Retailer

Purchase Date

Contact Address

Contact Phone No.

Invoice No.

Factory Serial No.

Limited Warranty

(Effective 1 January 2024)

The manufacturer warrants that the dehumidifier ("Product") will be free from defects in materials and workmanship under normal use for a period of one (1) year from the date of original purchase by the first end user ("Customer"), when purchased from the manufacturer or an authorized distributor.

This warranty applies only when the Product is installed, operated, and maintained in accordance with this manual.

Warranty Coverage

The manufacturer's obligation under this warranty is limited to, at its discretion, the repair or replacement of the defective Product or component.

This warranty does not cover refrigerant, accessories, consumables, transportation, installation, removal, or labor costs.

Warranty Exclusions

This warranty does not apply to damage or failure caused by improper installation, operation, or maintenance; failure to follow instructions; unauthorized repair or modification; misuse, abuse, environmental conditions, corrosion, freezing, water ingress, or acts of nature.

Replacement of any Product or component does not extend the original warranty period.

Warranty Claims

To obtain warranty service, the Customer must submit a valid claim within the warranty period and provide proof of purchase. Warranty service must be performed by the manufacturer or an authorized service provider.

If the Product must be shipped for service, the Customer is responsible for proper packaging, transportation costs, and risk of loss.

Limitation of Liability

To the maximum extent permitted by applicable law, the manufacturer shall not be liable for any indirect or consequential damages. Total liability shall not exceed the original purchase price of the Product.

Governing Law

This warranty shall be governed by the laws of the country or region in which the Product is sold.

General

If any provision of this warranty is unenforceable, the remaining provisions shall remain in effect. The manufacturer reserves the right to amend this warranty without prior notice.



Contact Us

For sales inquiries, technical support, or warranty service, please contact your local office below.

Hong Kong

Debiasia Green Technology (HK) Company Limited

Telephone: +852 2541 1611 / +852 2581 3527

WhatsApp: +852 5488 0850 / +852 6994 2833

Email: dba@dba.hk

Address: Room 04, 4/F, Wah Fat Industrial Building,
10–14 Kung Yip Street, Kwai Chung, Hong Kong

Singapore

DBA Electric PTE. LTD.

Telephone: +65 6772 9962

WhatsApp: +65 8985 9886

Email: dba@dba.sg

Address: Block B, Cititech Industrial Building,
629 Aljunied Road, #07-08, Singapore 389838