

AIRTOUCH ZONE CONTROL SYSTEM User Manual



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Liability

Please read the instructions before installing this Zonemaster Zoning Control System.

Polyaire Pty Ltd does not accept any responsibility for loss or damage that may occur as a result of the incorrect installation of this Zonemaster Control System.

1) Features

- User friendly large touch screen interface
- Wireless Remote control using smart WiFi enabled devices (iPhone, Androids and tablets)
- · Control from anywhere via internet*
- Intuitive user interface
- Control AC unit¹ (Optional, works with certain brands and models only)
- Control airflow to individual zones² and groups³
- Colour LCD for clearer display
- Personalized system settings and labelling
- Wall mounted with up to two touch screens available in a system
- 5-1-1 Programmable On/Off time programs and AC Timer
- One selectable turbo⁴ group to cool/heat a particular area quicker
- Half year, One year and Two year service reminders to call technician for cleaning and servicing AC system.
- All zones automatically resume their original on/off state once power is restored after power outage.

*Internet access will depend on the setting of the home router

- 1. AC unit is the ducted air conditioner which is connected to AirTouch
- 2. A zone is the area where air supply is controlled by one motorized damper
- 3. A group is a few zones grouped together which have the group name and are controlled (turning on and off, or adjusting opening percentage) at the same time. A group will have at least one zone and no more than four zones.
- 4. Turbo function will give the selected group a full-opening while all other groups' (dampers) opening positions are reduced by 50% of their open percentage value. This will bring a large volume of extra air into the designated area and cool or heat the area quicker.

2) Wall Controller Layout (Touch Screen)

The home screen of the AirTouch's touch screen will normally display groups' status, dampers' open percentage with adjusting buttons, date, time, room temperature, Wi-Fi (if available) logo, AC status, touch tone status and AirTouch logo as shown in Figure 1.

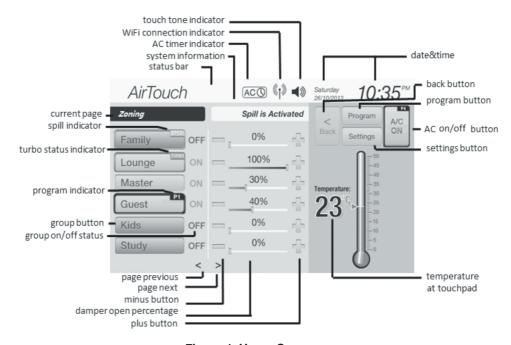


Figure 1: Home Screen

NOTE:

- The touch screen will go to the sleep mode after 90 seconds of inactivity.
 In sleep mode, the screen is blank. Touching any area of the screen will activate the system.
- Clean the touch screen, use a dry, soft cloth and very gently wipe the screen.
 If necessary, dampen the cloth with distilled water or with an equal ratio of distilled water to white vinegar.

3) Manual AC/Group control

3.1 AC Unit On/Off

If an AC unit is connected to AirTouch, it can be turned on/off on the home screen of AirTouch. The 'A/C' button (Figure 1) shows the AC status. Touching the button will switch the AC unit on or off.

If AC is not set up, the AC button will show , meaning the AC control is not available. _____

NOTE: If is displayed instead of or or the system is under safety mode which can be rectified by referring to "supply Air Safety High & Low Limits" in the installation manual.

3.2 Group On/Off/Turbo

a) On the home screen, touch a group button (Figure 2) to change the on/off group status and the dampers of the group will open or close accordingly.

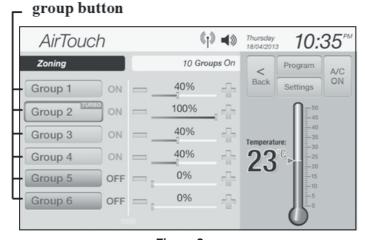


Figure 2

b) The group status can be set to 'TURBO' active when the group is specified as a turbo group (refer to 5.4) and the grey turbo indicator will turn blue to indicate the TURBO function is active. Figure 3 shows the group status sequence alternated by touching the group button.

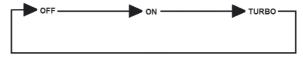


Figure 3

c) Up to 6 group buttons are shown in one screen and touch < or > to bring up previous or next page.

NOTE: A group can have up to a maximum of 4 zones. Your installer would have already set up your zones and groups.

3.3 Adjusting airflow for a group

- The damper opening percentage for every group can be adjusted to control
 the amount of airflow at every outlet between 10% and 100% of the balanced
 value (setup by Installer) at 10% increments.
- Touch or buttons on the home screen to increase or decrease the percentage opening for the corresponding group.
- The airflow will be unadjustable if the Turbo function is active. Pressing and will not change the opening percentage.



4) Automated AC/Group Control

Automated on/off control for each group and the AC unit is an important feature of the AirTouch system. This system has a program capability with three possible program settings, one for weekdays (Monday to Friday), one for Saturday and one for Sunday respectively.

Each program has 4 programmable events per day: on time 1, off time 1, on time 2 and off time 2. Each program event can be enabled/disabled and their time can be adjusted as desired. All four sets of program are disabled in the factory default with settings as listed in the table below.

	On time 1	Off time 1	On time 2	Off time 2
Monday to Friday	6.30AM	8.00AM	5.30PM	10.00PM
Saturday	7.30AM	12.30PM	6.00PM	11.30PM
Sunday	7.30AM	12.30PM	6.00PM	11.30PM

NOTE: The Turbo function cannot be programmed. It is activated manually from the touch screen as needed.

Touch the Program button on the home screen to enter 'Programming' screen (Figure 4).

AirTouch Programming Program 1 Program 2 Program 3 Program 4 AC Timer Assignment Program 4 Assignment Program 5 Ac Timer Program 6 Program 7 Program 7 Program 7 Program 8 Program 9 Program 9 Program 1 Program 1 Program 2 Program 3 Program 4 Ac Timer Assignment

Figure 4.

4.1 Set Program

Up to four programs and one AC timer can be set up.

a) Touch the button of the program (e.g. Program 1) or AC Timer on 'programming' screen (Figure 4) to enter the screen (Figure 5) to adjust the program time.

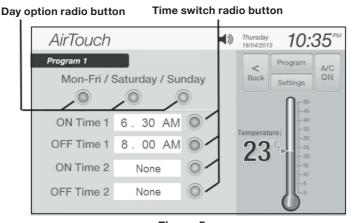


Figure 5

- b) Touch a day option radio button to select Monday-Friday, Saturday or Sunday program to modify. Touch the time switch radio button on the right to enable/disable ON/OFF time.
- c) Touch the hour, minute or AM/PM field on the screen to highlight it, and then the and buttons will appear on the screen (Figure 6).

 Touch or buttons to adjust the time.

NOTE: After an edit field is highlighted, touching that area again will quit from the editable status and the and will disappear.



Figure 6.

4.2 Select Program for a Group or AC

Enter the 'Assignment' screen (Figure 7) by touching Assignment on programming screen (Figure 4).
Assignment screen shows the list of the current program of each group and the AC Unit which will be the last item in the list if AC is set up.

Touch the program field of a group or the AC unit to show all program options (Figure 8). Touching a program option will assign the program to the group or the AC unit (Figure 9).

Each group and the AC unit can be assigned with one program from program1 to program4 ('P1' to 'P4'), and the group will not have a program if 'No' is selected. If a program has been assigned to a group or AC unit, the program indicator will appear on the group or AC button (Figure 10) if any of the four events in the program is enabled.

NOTE: Programs cannot be assigned to a group with turbo status. Record programs and groups to 'Table 5: Programs' on Page 17

Program Field

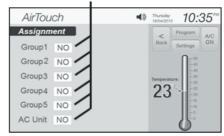


Figure 7.

Touch to select the program



Figure 8.

After selection

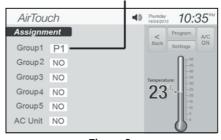


Figure 9.

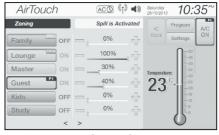


Figure 10.

4.3 AC Timer

AC timer function is useful for automatically switching the AC unit on or off at given time if AC is set up in AirTouch. You can use OFF Timer and On Timer in combination or separately.

- a) Touch AC Timer on 'Program' screen (Figure 4) to enter 'AC Timer' setup screen(Figure 11).
- b) Touch the radio button to enable or disable the relevant timer, touching the hour, minute or AM/PM field will bring up the plus and minus buttons(Figure 12), touch and button to change the time of the corresponding timer. The AC timer icon will be on the status bar if the AC timer is set (Figure 13).



Figure 11.



Figure 12.



Figure 13.

After an edit field is highlighted, touch that area again will quit from the editable status and the will disappear.

c) Touch button to save the timer and back to Program page.

NOTE: If AC is not set up, AC timer will not be available. AC timer function is different from the program function, the enabled timer will act once and will not repeat. If you want the action repeated at the same time, you may look at programs.

5) User Settings

- a) Touch Settings on the home screen (Figure 1) enter "Settings" screen (Figure 14)
- b) Touch User to enter 'user settings' screen(Figure 15)

In User Setting, you can set up WiFi connection, date and time, owner's name, Turbo group, temperature display and touch tone.

5.1 WiFi Setup

The instructions in this section demonstrate how to connect AirTouch to a home router, which will enable the operation of AC unit and zoning via Wi-Fi and internet. When selecting a position for the AirTouch main module to be installed, please make sure it is within the effective cover range of the home WiFi router which the AirTouch will be connected to. This will ensure reasonable WiFi signal strength and provide a reliable connection between AirTouch and the home router. It is highly recommended to undertake this setup by placing the AirTouch main module as close as practical to the router, ideally about 1.5 to 2 metres, before installing the main module



Figure 14.



Figure 15.

- a) On 'Settings' screen (Figure 14), touch User and then touch WiFi Setup to enter the 'Wi-Fi Setup' screen.
 - If AirTouch is currently connected to a WiFi network, the ticked SSID name will be displayed on the list field of the screen as Figure 16.
 - II. If AirTouch currently has no WiFi connection but was connected to a WiFi network before, the SSID field will show the SSID of the last network which AirTouch connected to. (Figure 17).



Figure 16.

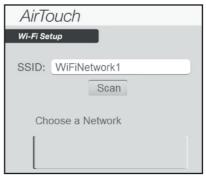


Figure 17.

- b) If the wireless network SSID is known, touch SSID edit field to display the keyboard on screen (Figure 18) and then input first few characters of the SSID. Touch

 Enter

 to confirm the SSID input
- c) Touch scan to start scanning for available Wi-Fi networks/routers (Figure 19).

NOTE: The system will scan and display two WiFi network SSIDs each time, so it will be more efficient if the correct SSID is input before scanning.



Figure 18.



Figure 19.

- d) On completion of the scan, up to two found routers with their SSIDs starting with the input characters will be displayed (Figure 20). Touch the desired router's name and then go to next step. If the desired router is not in the list, go back to b).
- e) Touch the password edit field (Figure 21) to enter the password of the Wi-Fi network. Touch to confirm the password input.
- f) Touch Connect (Figure 23) to connect the desired WiFi network. 'Connecting' will appear on the screen (Figure 24).



Figure 20.



Figure 21.



Figure 22.

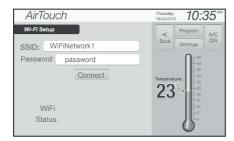


Figure 23.



Figure 24.

- g) The AirTouch's screen will display 'Wi-Fi Status: Connected' (Figure 25), if the connection was successful. If Wi-Fi connection failed (Figure 26), go back to a) to restart the process.
- h) The Wi-Fi logo (†) will appear on the status bar after connecting to the WiFi network (Figure 27). The connection will stay permanent till the setting changes on the home router such as SSID, password, security levels, filters and others. The connection will automatically resume after power off and on cycle.

Now you can run AirTouch applications on your smart devices to control AC or zoning.



Figure 25.



Figure 26.

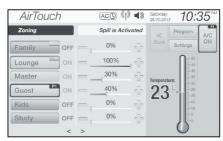


Figure 27.

5.2 Time/Date setup

- a) Touch set Time/Date on the 'User Settings' screen(Figure 15) to enter the time/date setup screen (Figure 28).
- b) Hour, Minute, AM/PM, day, month and year fields will be shown on the screen. Touch the field which need to be modified, then touch button to change the value (Figure 29).
- c) Touch button to save the changes and go back to User Setting page.

5.3 Owner's Name

touch

Owner's name is used by mobile apps to distinguish different AirTouch if more than one system installed in the same house. It will also be displayed on the web page when you access the AirTouch via internet. The maximum length of the name is 16 letters. Go to 'User Settings' screen (Figure 15). Touch 'Owners Name' to change the owner's name by using the keyboard shown on the screen (Figure 30). Touch Shift to switch between lower case and upper case and

touch Enter to confirm the name or

to cancel the change.



Figure 28.

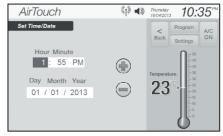


Figure 29.



Figure 30.

5.4 Turbo Group

Touch 'Turbo Group' to specify a group as a Turbo Group. Turbo function will give the selected group a full-opening while all other groups' (dampers) opening positions are reduced by 50% of their open percentage value. This will bring a large volume of extra air into the designated area and cool or heat the area quicker. Typically this may be a family room, dining room or home theatre (or in commercial application a meeting, lunch or board room).

Touch the 'Turbo Group' field on the 'User Settings' screen (Figure 15), to display the list of available group name (Figure 31). Choose the desired group name as the turbo group. The grey turbo indicator will appear on the group button after it's chosen as Turbo group.

NOTE: To make the specified group start to work in turbo mode, the group status need to be turn to 'turbo' on the home screen (3.2).

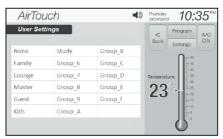


Figure 31.

Set Time/Date

Polvaire

10:35

5.5 Temperature Display

Touch the radio button of Display Temperature to enable or disable the temperature display on the touch screen. Below images show the enabled status (Figure 32) and disabled status (Figure 33) of temperature display.



Turbo Group Group_1

ature

buch

Turbo Group Group_1

Display Temperature
Tone on Touch

Figure 32.

AirTouch

User Settings

Wi-Fi Setup

Owners Name

5.6 Touch Tone

The touch tone feature allows to either enable or disable the tone when the screen is touched. It is disabled as default and will display a mute logo ■X on the screen.

Touch the radio button of | Tone on Touch | to switch the touch tone on/off.

6) Information Sheets

These should be filled out by the installer

Table 1: System Configuration

Total Groups	Bypass Damper Installed	Supply Air Sensor Installed	
	Yes/No	Yes/No	

Table 2: Grouping

Group	Group Name	Zones Included	Turbo Function
1			
2			
3			
4			
5			
6			
7			
8			
9			
Α			
В			
С			
D			
Е			
F			
G			

Table 3: Balance

Zone	Balance Percentage
Zone 1	
Zone 2	
Zone 3	
Zone 4	
Zone 5	
Zone 6	
Zone 7	
Zone 8	
Zone 9	
Zone A	
Zone B	
Zone C	
Zone D	
Zone E	
Zone F	
Zone G	

Table 4: Installer Details

Installer	Contact Number	Date

Table 5: Programs

PROGRAM 1	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/AC				

PROGRAM 2	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/AC				

PROGRAM 3	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/AC				

PROGRAM 4	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/AC				

7) Troubleshooting Guide for Touch Screen

PROBLEM	SUGGESTED ACTION
Dampers have no response when turned on or off	Check if the 'Safety is Activated' error is displayed. High limit (Heating) or Low limit (Cooling) may have reached. Check the air-conditioner to see if it is operating normally. AirTouch system will resume to operational after the supply air temperature is within safety range. 'Check if Supply air sensor is plugged in the mainboard and High Limit & Low Limit is enabled. If the sensor is not plugged in, plug the sensor and the system will be operational after a minute. If the sensor is not required, disable High limit and Low limit from touchpad and system will return to operational in a minute. 'Check if LEDs on the main module light up for relevant zones when the zone dampers are being turned On/Off. If Green/Red LEDs are not activated for the respective zone, the main module may be faulty, replace it. 'Check if the cable from touchpad to the main control module is faulty. If it is a faulty cable, then the cable might have to be replaced.
Some zones cannot be turned off	Check if 'Spill is activated' is displayed on the LCD screen. Check if 'Spill' status is displayed for the Group status in the home screen. Opening other zones will rectify the error 'If all zones are turned on but the total opening percentage doesn't meet the required spill percentage, then the SPILL warning message will be displayed. Increasing the opening percentage of a few zones will resolve the issue. 'Check spill set-point.
No display on the LCD	*Check if the cable is plugged in properly. Unplug the cable and reconnect it. *Check if there is power to the unit.
LCD Display Corrupted	Reset LCD by holding RESET button at the bottom of the Touchpad for 2s. If error is still not resolved, reset touchpad by unplugging the cable from behind and then reconnect it after a couple minutes. If the corrupted display remains, power off/on the mainboard. Otherwise, replace the touchpad.
Some zones are not operational	*Check Grouping and find out if the right zones have been assigned to the right groups and have been turned ON/OFF in Zoning section. *Check if the total group number and zone number are correct. *Check if the LEDs on the main module light up for the relevant zones when the zone dampers are turned On/Off. If there is no response, there might be a faulty cable and the cable would have to be replaced. If the zone is still non-functional then there might be a faulty damper motor.
'AC ERROR' is displayed on touchpad	*This error is displayed due to a fault with the AC unit. The AC ON/OFF function will be disabled when this error is displayed. Please check the AC unit / AC touchpad to fix the problem.

^{*:} Some of the checks in the guide should be carried out by qualified personnel. If you have any doubt regarding the above please contact your installer.

8) AirTouch Apps

Downloading and Installing the AirTouch Apps
 AirTouch application can be downloaded from the
 following locations. The application is available for
 free of charge.



Figure 34.

For Android Phone and Tablet: Go to Market / Google Play store from your android phone and search for AirTouch application developed by Zonemaster. After downloading the application, open the file and follow the prompts to install the application on your phone.

For iPhone: Go to the App store and search for AirTouch application developed by Zonemaster. Tap on the AirTouch app and press Install. Enter your iTunes password and the AirTouch app will be automatically downloaded and installed on your iPhone.

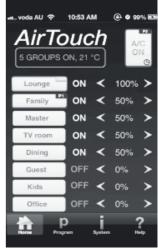


Figure 35.

2. Using AirTouch Apps

Tap the AirTouch app (Figure 34) from the main screen and open up the app. Figure 35 shows the home page of the app. The operation is explicit and straight forward.

NOTE:

- All Groups/Zones can be turned ON/OFF at the same time by holding any Zone button for more than 2 seconds.
- Turbo zone can be activated by tapping the respective chosen zone until active Turbo icon appears on that particular zone.
- Message box will display how many groups are on for the time being in normal operation and will turn yellow to display any warning messages. Look at App Troubleshooting section for solutions for the displayed warning messages.
- Temperature displayed is the temperature at the location of the touchpad
- To change names of group/zone, go to System (i), then Naming page and follow the prompts.
- To program groups/zones and AC unit, or set timer for AC unit, go to Program (p) and follow the prompts.

3. Troubleshooting Guide for AirTouch App

NO	PROBLEM	SUGGESTED ACTION
1	AirTouch app displays "Please turn on the Wi-Fi and set Wi-Fi to the router connected to AirTouch, and then restart the app"	a) Close the AirTouch app and restart again. b) Check if the phone Wi-Fi is turned ON and is connected to the same router which the AirTouch is connected. c) For iPhone 4s, turn OFF "Cellular Data" in "Settings\General/ Network". Restart the app. "Cellular Data" can be turned back ON after the app is turned ON. d) Check if there was a power failure. If so, wait for AirTouch to re-establish connection with the home router (3 minutes from Power ON). Now check if the Wi-Fi icon (() is back on the screen and then try re-opening the app. If Wi-Fi icon does not appear refer to point 2.
2	Wi-Fi symbol (ிர்)) disappeared from the touchpad.	a) After a power failure, AirTouch will re-connect to home router and Wi-Fi icon (()) will be back on in 3 minutes from Power ON. b) Turn the wireless router OFF and turn it back ON. Wait for 3 minutes for the AirTouch system to initialise. c) If Wi-Fi icon (() does not appear, follow Wi-Fi setup process to re-establish connection between your home router and AirTouch.
3	AirTouch app does not respond even if the app is in operation. "Send message error" is displayed on the screen.	WiFi connection may have dropped due to no action from the mobile for a period of time. a) Close the AirTouch app and restart it. b) Or Turn the phone off and restart it.
4	"SPILL, TURNING ON MORE ZONES WILL RESOLVE THE ISSUE." warning message is displayed	This means that the spill function has been activated as a safety measure because too many zones have been turned OFF. Turning ON more zones will resolve the issue.
5	"SAFETY PROTECTION ACTIVATED. CHECK AC SYSTEM", warning message is displayed	This message means the safety protection has been activated due to very high or low temperatures reached at the supply air end. Please check the AC system to fix the problem.*
6	"HALF/ONE/TWO YEAR SERVICE DUE" message is displayed	This is the message setup by your installer to alert you to clean your filters or service your air conditioner every 6 months, 1 year and 2 years respectively. This message can be removed by touching the message area.*
7	"AC ERROR. CHECK AC SYSTEM", warning message is displayed	This error is triggered due to a fault with the AC unit connected to. Please check the air-conditioning system to resolve the issue*

^{*:} Some of the checks in the guide should be carried out by qualified personnel. If you have any doubt regarding the above please contact your installer.

9) Control Over Internet

Users can control AirTouch away from home if internet access has been permitted. Follow the setup process in the Internet Access Setup manual before using this feature.

Type in the IP address or domain name of the home router which is connected to AirTouch to access the control function. The control page is like the one shown to the right, but the actual appearance will depend on the setup of the system, device and web browser.

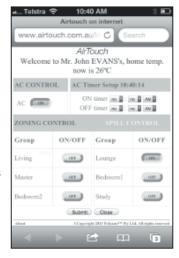
The name 'John Evans's' is the owner's name which is set in AirTouch users settings. The home temperature displayed is measured from where the touchpad is installed. It will tell the user if it's necessary to turn on or off the AC unit at home.

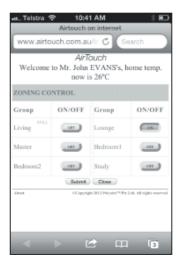
Turn on or off the AC or groups by clicking the On/ Off buttons on the screen and press the submit button to send the request. Then the system will execute the request and respond with a message to tell the user if the request is successful. If not, the user will send the request again by pressing the submit button. If too many groups closed, the spill or bypass warning will be displayed to indicate some zones are in spill or bypass mode.

When AC system is turned off, all groups will not be operational.

The AC timers can be set to turn on or off the AC unit at required times. The time displayed is the system time of AirTouch. The time set in the timers will be the time of AirTouch system. The AC will turn on or off when the time in AirTouch system reaches the set time.

If AC is not set up in AirTouch, the AC on/off function and the AC timers will be not available and the web page will look like the image to the right





10) Specifications

Electrical Requirements

Power supply: $24V AC \pm 10\%$

Line frequency: 50 Hz

Components Power Consumption

Touchpad: 0.5 VA Main Control Module: 5 VA

Environmental Requirements

Operating temperature: 0°C to 60°C

Altitude: 0 to 2000 meters

Operating relative humidity: 10% to 80%

Avoid static electricity hazards

Avoid electromagnetic radiation sources

Avoid dust contamination

Avoid highly corrosive environments

Zone Output

Output voltage: 24VAC, 50Hz

Current: 200mA (1 damper motor)

Transformer

Input Voltage: 240VAC, 50Hz
Output Voltage: 24VAC, 50Hz

Wattage: 40W

Supply Air Sensor: NTC type, $10 \text{ k}\Omega$ at 25°C

Battery: 3.6V, 3xAAAM

Rechargeable for Main Module

Fuse: Dimension 5x20 mm,

Fast-Acting 2A, 250V



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