



# **AirTouch 2**

## **Zone Control System**

### *Installation Manual*



[www.polyaire.com.au](http://www.polyaire.com.au)

**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.

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## 1) Application

Zonemaster AirTouch 2 control system is a fully featured and engineered system that is designed to manage the air flow from the AC unit providing a balanced and managed airflow to all outlets. It is well suited to all ducted reverse cycle and heating systems in light commercial, residential and apartment applications.

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## 2) Features

### **For Installers**

- 24 volts for easy and safe installation and maintenance.
- User friendly 5" touch screen interface to simplify setup process.
- Supports up to 16 individual zones (Zone 1, 2...9, A, B...G), or 16 groups (Group 1, 2...9, A, B...G) with maximum of 4 zones in a group. Nine zones/groups or more will require an extension module.
- Remote zone balancing --- each zone's opening position can be programmed for balancing via touch screen between 10-100%.
- Auto spill --- the designated zone dampers are forced open when all zones are turned off.
- Safety system --- Opens all dampers if the supply air temperature reaches low or high limit.
- Dampers are connected directly to the main control module or its extension module for easy diagnosis.

### **For End Users**

- User friendly large touch screen control interface.
- Wireless Remote control using smart WiFi enabled devices (iPhone, Androids and tablets).
- Control from anywhere over internet\*
- Intuitive user interface.
- Control AC unit in different levels (Optional, On/Off only or full AC control, works with certain brands and models only) with auto-off option when all zones are closed
- Control up to two AC units (Extension module required)
- Control airflow to individual groups.
- Colour LCD for clearer display.
- Personalized system settings and group 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 turbo group to cool/heat a particular area quicker for each AC ducted system
- Half year, One year and Two year service alerts remind customers 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.

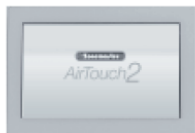
*\*\*Internet access will depends on the home router's capability and may result in about 25MB data usage per month.*

### 3) Components

**Note:** Each component is sold separately or in kits.

#### 3.1 Wall Controller (Touch Screen)

Users can input control commands from the wall controller to turn a group or AC on and off. It is used to input all program parameters. The colour LCD displays clock, group/zone status, WiFi status, AC status, temperature and other statuses.



#### 3.2 Main Control Module and Extension Module (optional)

Main control module (8 zones) and its optional extension module (extra 8 zones) control the position of motorized damper of each zone.



#### 3.3 Motorized Damper (Bright Green)

Motorized damper drives the blade of the damper to turn the air supply on/off.



#### 3.4 Cables

Cables with left latch (for data) or central latch (for control) plugs connect the main control module, extension module (if applicable), touch screen, and motorized damper together.



#### 3.5 Supply Air Sensor (optional)

Supply air sensor measures the temperature of the supply air for safety purposes.



#### 3.6 Power Supply

24VAC transformers provide power to the main control module and extension module.



#### 3.7 Backup Battery

The backup battery is used to store the time and day when there is a power surge. The battery is rechargeable.



### **3.8 AC Control Cable kit (Optional, On/Off only)**

AC control cable kit is used to connect the AirTouch 2 main module with the AC Indoor unit board (only for some models of AC manufacturers) to realize the On/Off only control



### **3.9 AC Gateways (optional, full control)**

AC gateways are for full control of most major brand ducted systems such as Daikin, Panasonic, Fujitsu, Mitsubishi Electric, Mitsubishi Heavy Industries, Toshiba and LG.

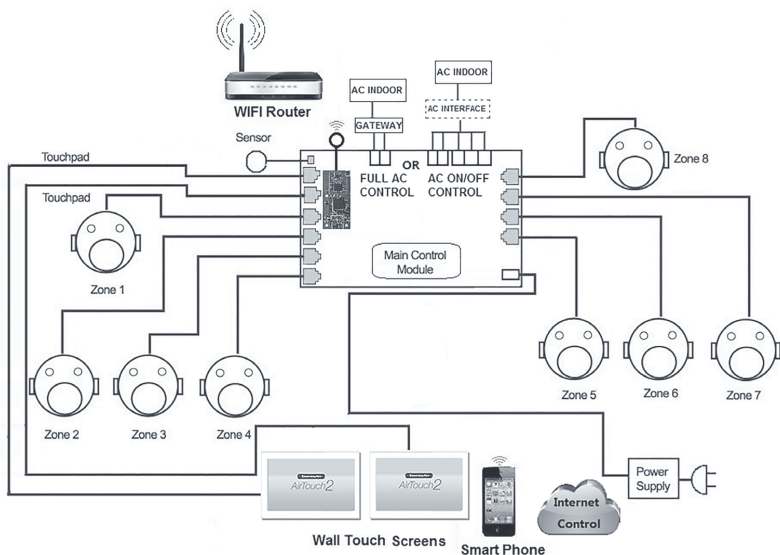
Each gateway comes with a RS485 cable for connecting the gateway with AirTouch 2.

Some gateways may have a cable with special plugs for connecting the gateway to AC indoor PCB.



## 4) Configuration

Zonemaster AirTouch 2 system is a star architecture system that allows communications between AirTouch 2 main control module, extension module, AC unit, WiFi router (to connect to smart phones and internet), up to 16 zone dampers, and up to two touch screens. Figure below shows the connection of devices such as the WiFi router, AC indoor PCB, AirTouch 2 extension module, two touch screens, and eight dampers to the AirTouch 2 main module.

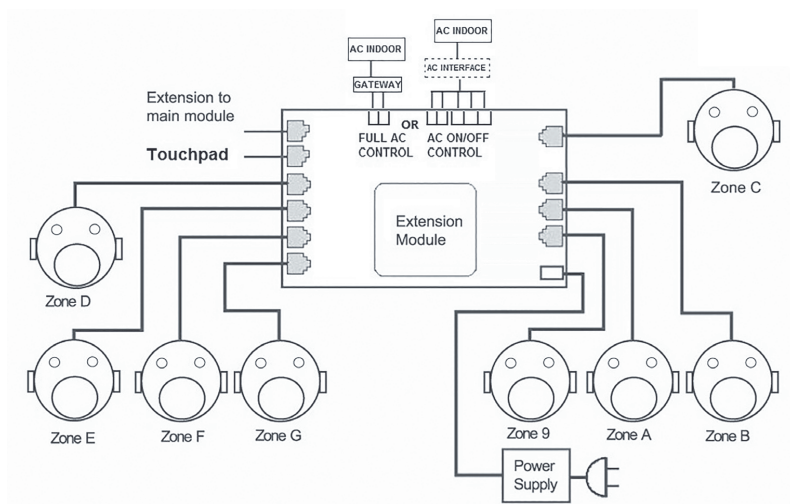


Eight motorized dampers can be connected to the main control module. Nine dampers and above (up to 16) will need the extension module.

The wiring of the AirTouch 2 system is straightforward. A cable with central latched plugs connects a motorized damper to the relevant output port clearly marked on the main control or extension module.



Figure below shows the connection of eight dampers to the extension module.



If there is another AC connected to the extension module, it can either be to the On/Off port or RS485 terminals. This depends if the relevant gateway is used. Please see AC wirings for details in section 7.9.

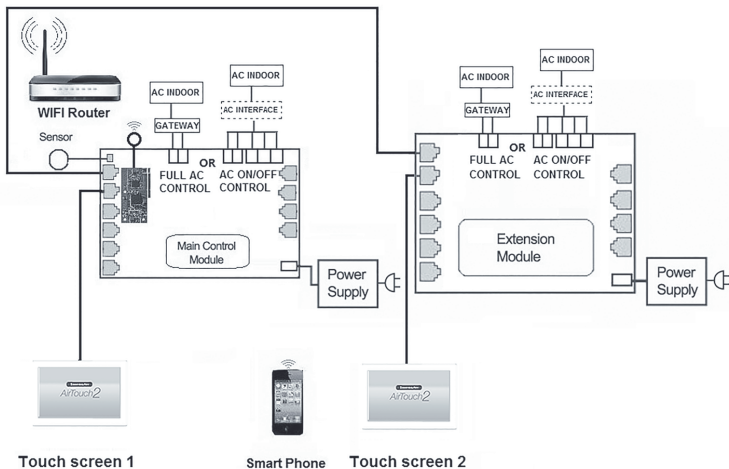
Main module and extension module can be in different locations and connected via a cable with left latched plugs on both ends. Touch screen is connected to the 'T' port on main module using a cable with left latched plugs.

Up to two touch screens can be joined in a system. The two touch screens can be connected directly to the main module and extension module if it's installed.

Figure below shows the linking of the main module to the extension module, AC unit, touch screens, and smart phone.

**NOTE: Install the touch screen at least 20mm away from any other wall control to avoid potential interference.**

Figure below shows the linking of the main module to the extension module, AC unit, touch screens, and smart phone



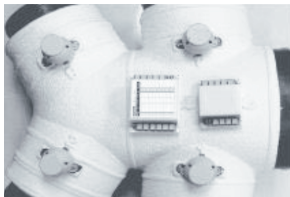
## 5) Pre-Installation

Good planning leads to a successful zone system installation. Before physical installing and commissioning a zoning system, complete the following listed tasks:

- 5.1 Decide how many zones (dampers) are to be controlled in the system.
- 5.2 Assign lower order zones (1, 2, 3...) to dampers closest to the return air grille. These zones will automatically open when spilling is required. However avoid using lower order zones for bedrooms as this may cause discomfort if auto spilling occurs during sleep time.
- 5.3 Group zones according to customer's requirements. Each group initially has one zone but can have up to a maximum of four zones (Example: There could be one or more zones going into a common area such as Kitchen/Dining or Family/Dining room). Work out the total group number (Maximum total group number in a system is 16).
- 5.4 Record the above mentioned information to table 1 and 2 on page 14 in the User manual and to the table on the sticker of the Main Control Module.

- 5.5 Setup the Wi-Fi connection before installing the AirTouch 2 main module into the ceiling. Place the main module next to the home router and follow the Wi-Fi setup process from Page 21 of this manual. This will help eliminate Wi-Fi set-up problems once the module is installed into the ceiling.

After setting up the WiFi connection, please position the main module in a position where it will be installed and within the effective range of the home WiFi router. This can be done by checking the WiFi logo on the touch screen after placing the main module where it's going to be installed. The selected position is fine if the WiFi logo appears on the touch screen after powering up the AirTouch 2 and connecting it to the touch screen. Otherwise, please move the main module closer to the home router and try it again till the WiFi logo appears on the touch screen.



**NOTE: It is important to test all cables before installation.**

**Testing all cables to be used before the start of the installation will save considerable diagnostic time if the fully installed system is subsequently found to have a problem. Cable testing is quick and easy with a Zonemaster Cable tester available from Polyaire**



**Cable Tester (Item: 657089)**



## 6) Component Installation

- 6.1 After setting up WiFi for the system as specified above, mount the main control module and/or extension module (if using more than 8 zones) by screwing the boxes to a roof frame or Polyaire Diffusion Fitting (PDF).
- 6.2 Remove the two-side covers on the main control module so that all LEDs and sockets for zone dampers are exposed.



- 6.3 If extension module is used, connect main module to extension module at 'E' port on both modules with a One metre left latched cable (provided).



- 6.4 Use pre-tested cable to connect 'Z1' port on the main module to the motorized damper of the 1st zone.



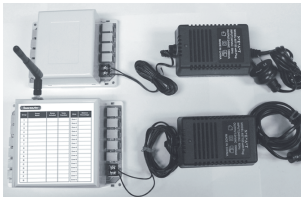
- 6.5 Repeat step 6.4 to connect other zone dampers to their relevant zone ports on the main control module and extension module.

- 6.6 Mount the supply air sensor in the supply air duct between the fan coil and the first damper and push the plug of supply air temperature sensor into the socket on the main control module (Optional).

- 6.7 Connect the touch screen to the 'T' port on the main module. If two touch screens are used, connect the touch screens to T1 and T2/E or the main and extension modules if the extension module is installed.



- 6.8 Connect the 24VAC transformer to screw terminals on the main control module. If extension module is used, connect another 24 VAC transformer to the screw terminals of the extension module.



- 6.9 Connect the Zonemaster main module to the AC unit using the required kit for the respective AC unit (cables and interface board). Follow the wiring diagram for the respective unit provided on Page 24-33 of this manual.

- 6.10 If both transformers (main module and extension module) share the same power switch, switch the power on.

***(IMPORTANT NOTE) If NOT, switch on the power to extension module first. Then turn on the power to main module.***

Otherwise, the extension module will NOT be initialized properly. Red LED on the main module (and extension module) should be on and the system will start initializing & finish in about 30 seconds after power on.

- 6.11 Remove the protective plastic film from the battery to activate it on the main control module. It is recommended to activate the battery after power is on. Otherwise the system may not be initialized properly due to the low voltage of the new battery.
- 6.12 Replace the side covers back on the main control and extension module once finished setting and commissioning.
- 6.13 Record the grouped zones and balancing details on the sticker off the Main Control Module after commissioning the system.



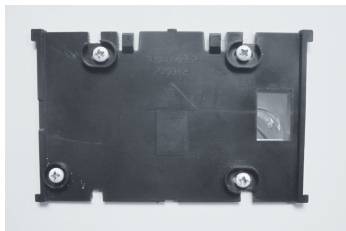
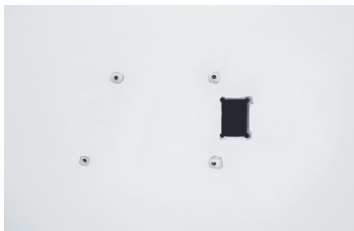
#### 6.14 Fit the Touch Screen to wall

The plastic casing of the touch screen consists of two halves. The front cover contains the PCB board along with the LCD/touch screen. The back cover attaches to the wall as a mounting base. During the installation process the case will have to be opened to mount the touch screen on the wall. Follow the steps below to carefully install the touch screen to the wall:

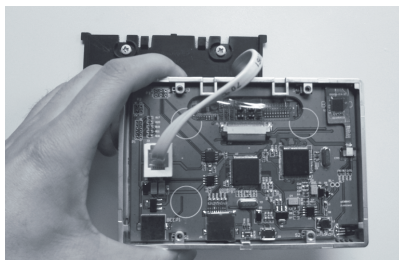
- a) Slide the back base to bottom side to clear the stops on the front cover
- b) Remove the base from the front cover
- c) Position the back base on the wall where the cable is (about 1.5m high from the floor). Ensure it is away from any heat or cool source and mark the cable hole and screw holes.

**Note: The correct back cover direction is marked on its surface; follow that mark when fixing the back cover.**

- d) Cut the rectangular hole for the cable and fix the back base to the wall by using four screws on the marked positions.

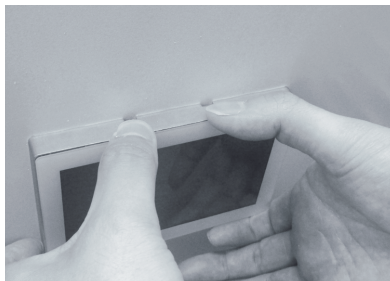


- e) Retrieve the touch screen cable (from main control module) out of the cable hole and plug it into the touch screen.



- f) Align the bottom edge of the back base with the bottom inside of the front cover and the two side edges of the back base with the front cover.

- g) Gently push the front cover against the wall and make sure the back of front cover is flush against the wall. And then push the front cover downwards with two fingers holding the top side of the front cover where there are two slots till the two snap-ons click in.



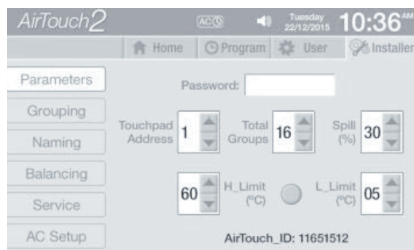
## 7) Recommended Commissioning Procedure

There are two sets of settings, the installer's and user's. In the installer's settings, the followings can be set: parameters, grouping, naming, balancing, service and AC setup.

These settings are protected by a password which has default value Polyaire but can be changed in the installer's parameters setting. Touching Installer tab will bring up password input page. After inputting the correct password, installer's setting page will come up. In the user's settings, the followings can be set: owner name, date/time, WiFi, turbo group, temperature display and touch tone. Touching User tab will bring up user's settings



## 7.1 Parameters



### 7.1.1 Touch Screen Address

Up to two touch screens can be installed in one AirTouch 2 system. Each touch screen has a default address of '1'. During commissioning each touch screen should be assigned a unique address for communicating with the main control module properly. Touch the Up and Down buttons next to Touchpad Address to select the touchpad address from 1 to 2.

NOTE: Each touch screen must have a unique address.

***Two touch screens with the same address will cause communication problems between the main control module and the touch screens.***

### 7.1.2 Number of Groups in the System

For the purpose of group status display and spill zone calculation, the system needs to know the total number of groups to be installed. The factory default number is 8.

***IMPORTANT: This number must be equal to the total group number used in the system as planned in Pre-Installation process. If this is wrong, the system may not work properly.***

Press Up or Down buttons next to the Total Groups to change to the total number of groups in the system. The selectable number is from 1 to 16.

### 7.1.3 Supply Air Safety High & Low Limits

For safety reasons, the system can monitor the supply air temperature. A supply air sensor must be inserted at the supply air end of the AC and the other end is to be connected to the Main module, as shown on page 8 for this safety function to be activated. If the temperature is outside the set limits, all dampers in the system will be forced open. The factory default setting for the safety control is "disabled". It is optional for using this function. A supplier sensor has to be plugged into the mainboard if this function is enabled.

Adjust them to the required value by touching Up or Down buttons next to the 'H\_Limit' and 'L\_limit'. The adjustable range of the high limit is from 45°C to 75°C and adjustable range of the low limit is from 0°C to 15°C. The factory default values are 60°C for high limit and 5°C for low limit.





**NOTE:** If the limits are reached, 'SAFETY' will be displayed on the home screen. The ON/OFF function of groups will be disabled till supply air temperature moves back within the limits or the High Limit and Low Limit protection is disabled (there is about one minute delay after disabling the protection). Check the air conditioning unit if 'SAFETY' displays on the AirTouch 2 screen.

#### 7.1.4 Spill Setting

Spill mode is another safety feature of the AirTouch 2 system to prevent pressure from building up and causing duct damage. This usually occurs if someone has turned off all dampers while the A/C unit is pumping air into the system leading to a pressure buildup (and potential of duct puncture, blow-offs or joints splitting).

This is a program designed to automatically open several dampers if someone attempts to shut down all dampers thus preventing pressure build up. Spill mode uses the zones with lower addresses in the system. When allocating addresses to zones, it is strongly recommended to give lower addresses to those zones that have higher spill privileges. These zones are normally located closer to the return air grilles. The lower the zone address, the higher the spill privilege the zone has.

Another point to remember is DO NOT use bedrooms as spill zones. During sleep time if the air conditioner is on and spill zones are automatically forced to open, the spill zones will be very cold or hot. This may cause discomfort if bedrooms are used as spill zones.

When the spill set-point is reached, the main control module instructs zone 1 to open as the first spill zone. If the first spill zone cannot satisfy the spill air control, zone 2 will automatically open to spill excess air. This process will continue until the spill air set-point is satisfied in the system. For example: In an eight zone system, if set point is set at 30% then it will have at least 3 (calculated value = 2.4) or more zones remaining open,



Touch the Up or Down buttons to change the spill set-point to required value. The adjustable range is from 0% to 50% with 10% increments.

**IMPORTANT: DO NOT set spill set-point to 0% unless there is a permanent open zone used as spill zone. Otherwise, there will be no spill zone when all zones are closed and damage may be caused by high pressure build up inside ducts if air conditioner is running.**

## 7.1.5 Installer Settings Password



The password will be used to prevent unauthorized changing of the installer settings. To reset this password, touch the password edit field in the 'Parameter' screen, and then type in the new password and touch 'Enter' key to confirm the password change.

## 7.2 Grouping Zones

For ease of control operation, multiple zones can be grouped together. The grouped zones are treated as one group with its own name and turned on or off together. Individual balanced damper position is not affected by grouping, which means zone balancing can be conducted before or after grouping. Grouping can be carried out as follows:

- a) In 'Installer Settings' screen, touch Grouping to enter 'Grouping' screen.



- b) Touch the edit field of the group  
c) and then touch '+' or '-' button to add or minus zones to the group  
d) Repeat steps b) and c) to define all groups.

**NOTE: The maximum number of zones in a group is four. The zones to be grouped will be consecutive zones. The factory default for grouping is that each group has one zone.**

## 7.3 Naming Groups

The name of a group is set as 'Group-address' (e.g. Group-1) in default setting. The names can be customized as follows:

- a) In 'Installer Settings' screen, touch 'Naming' to enter 'Naming' screen.



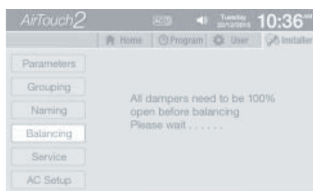
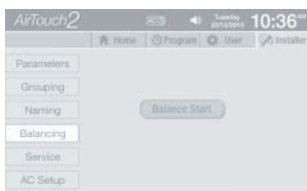


- b) Touch the edit field of a group to rename it. A name list will appear for selection.
- c) Touch a name in the list to specify the name to the group, and also you can touch Keyboard to enter or edit a name manually.
- d) Touch 'Enter' to confirm or touch any tabs to cancel and exit.

## 7.4 Balancing Zones

Remote balancing feature of AirTouch 2 offers the flexibility of balancing the amount of airflow to each zone electronically. Once the opening position of the damper is set, the damper will only open to this position. The default setting for each damper is 100% opening position and the adjustable range is between 10% and 100%. The balancing settings can be conducted on the touch screen as below

- a) In 'Installer Settings' screen, touch 'Balancing' tab
- b) Touching 'Balance Start' button will show a prompt for about 15 seconds and then enter the 'Balancing' screen.



- c) Click the edit field to select the zone to be balanced, the field will be highlighted and the value wheel will appear
- d) Touch the value for the required balance percentage.



## NOTE:

- **The balancing menu will display all 16 zones irrespective of the number of zones actually present in the system.**
- **The balancing percentages of the inactive zones remain locked and show as N/A.**
- **The %OPEN value on the Zoning screen can be operated by the user for additional air flow adjustment to the groups. The overall opening % of the zone is calculated as %OPEN x Balance %.**

## 7.5 Enabling/Disabling Service Reminder

There is a built-in service reminder in the AirTouch 2 system for half year, one year and two years to automatically display an alert notifying customer that the air conditioning system is due for service. Installers can also use this feature to leave their details such as their names and contact numbers.

The service reminder will display 'HALF YEAR SERVICE DUE', 'ONE YEAR SERVICE DUE' or 'TWO YEAR SERVICE DUE' and installer's name and contact number on touch screen for the set number of days if it has been enabled for half year (182 days), one year (365) and two years (728 days) respectively since the air conditioning system has been commissioned or serviced. The Running days in the 'Service' screen will automatically reset to 1 after 728 days or can be manually changed. The Service Reminder is disabled by default but can be enabled as follows:

- a) In the 'Installer' settings screen, touch 'Service' to enter the 'Service' screen.



- b) Touch the service reminder option buttons to enable or disable the relevant reminders.
- c) Touch the edit field to change to the desired setting. The installer name and number can be entered by using a keyboard. Make sure to touch 'Enter' to confirm the input. Touch Up and Down buttons to adjust Display and Running days.

Maximum length of the name is 10 characters and the phone number is 12 digits.



Reminder information will be displayed on the area where the AC control is when the service is due for the length of display days (5 days in the example). Touch the close button on the top right corner of the message box will clear the alert but the message box will come back when the screen wakes up from sleep next time. To not show the message box before the set display days, tick the Don't Show Again box before closing the message box.

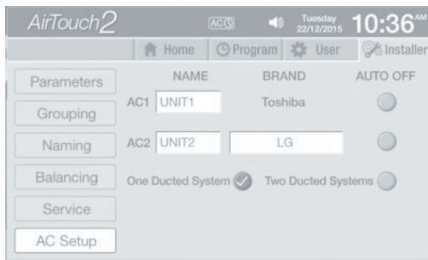
The running days show how many days having passed since the system has been commissioned or serviced. It will automatically start from 1 for every 728 days.

***NOTE: Record the above parameters such as Grouped Zones & Balancing on the sticker of the Main Control Module and the System Configuration, Grouped Zones along with Named Groups, Balancing and Installer details to table 1, 2, 3 and 4 respectively on page 14 and 15 of the User manual for future reference.***

## 7.6 Setting up AC Control (Optional)

If relevant gateways are connected to AirTouch 2 main module or extension module, AirTouch 2 will automatically recognise the connected AC brands. There is no need to select AC brands from the AC lists. The brands will be listed in inactive colour and cannot be changed. But the AC names are still editable. In this case, AirTouch 2 will have full control for the ACs such as operation modes, fan speeds and set point. The available gateways for the relevant ACs are Daikin, Panasonic, Fujitsu, Mitsubishi Electric, Mitsubishi Heavy Industries, Toshiba and LG. The wiring diagrams for the connection with the gateways are on section 7.9.2.

If there is no gateway connected between indoor PCBs and AirTouch 2, but other interfaces from the AC manufacturers are used for connecting the indoor PCB to AirTouch 2, the AC brands should be selected from the brand list in the AC setup section. In this case, there will be only On and Off control from AirTouch 2. The operation mode, fan speed and set point will not be available from AirTouch 2. The relevant wiring diagrams are on section 7.9.1.



### 7.6.1 Name AC Units

The names of the AC can be edited as required. The default names are Unit and Unit 2 for AC1 and AC2 respectively. Touch the name box will bring up keyboard for editing. Touch Enter to confirm the new name. The maximum length of the AC names is 8 characters.

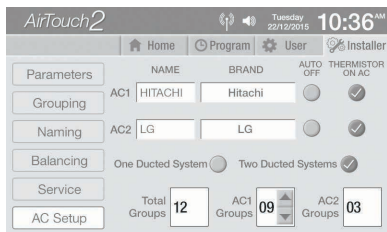
### 7.6.2 Select AC brands

It is required to select the Brand/Model of the AC unit from a specified list to connect with the AirTouch 2 system if no gateway is used in the installation. Before setting this up, ensure the AC indoor PCB is connected to the AirTouch 2 main module as shown in the wiring diagrams (Page 24-33) based on the selected unit. Ensure the AC unit is configured to work with a third party controller. The following are the options that can be selected from the list:

- |           |                               |
|-----------|-------------------------------|
| ✓ None    | ✓ Mitsubishi Heavy Industries |
| ✓ Daikin  | ✓ Mitsubishi Electric         |
| ✓ Fujitsu | ✓ Panasonic S model           |
| ✓ Hitachi | ✓ Samsung with MIM-B14        |
| ✓ LG      | ✓ Toshiba                     |

The default is set up as 'None', meaning no AC is connected. If two ACs are installed and connected to AirTouch 2, both AC brands have to be selected even if they are the same.

- a) In 'Installer Settings' screen, touch 'AC Setup' to enter the 'AC Setup' screen



- b) Touch the edit field of 'AC Brand', all selectable AC brands/models will be listed
- c) Touch the desired AC brand/model to make it as the current connected AC.

**NOTE: Some of the models from the above listed brands may not have the terminals as shown in the wiring diagrams. In this case, the AirTouch 2 system may not be able to be connected to the AC unit. If the AirTouch 2 system is not connected to any AC Unit, select 'None' from the list. To connect a brand/model not listed, please contact Polyaire.**

### 7.6.3 AC Auto Off option

AC auto off function provides an option to protect the duct system. If this option is selected (the radio button is ticked), the AirTouch 2 system will try to turn off AC after all groups are turned off. It is disabled by default.

In One Ducted System, if two AC units are installed the two ACs share the same Auto Off and will all turn off if all groups are closed.

In Two Ducted System, the two ACs have their own Auto Off option and will act according to their own selection.

**NOTE: AC Auto Off option will not appear if AC Brand is 'None'.**

### 7.6.4 Select Ducted Systems

In two AC scenarios, the installation may be one ducted system or two separate ducted systems. If two ACs supply air to the same ducted system, this is classified as one ducted system and the two ACs will have the same spill, Auto Off and Turbo settings. If each AC has its independent supply and return air, it's classified as Two Ducted System. Each AC will have its own Auto Off and Turbo settings. However, the settings for spill and low and high limits will be the same for both ACs in One Ducted and Two Ducted systems. It's up to the installer to choose one ducted system or two ducted system.



### 7.6.5 Groups connected in each ducted system

If the 'Two Ducted System' option is chosen, the installer has to tell the system how many groups in each ducted system by inputting the group number for AC1. The system will automatically calculate the group number for AC2. The group number for each ducted system will help protect each system from potential blown-out (by spilling) and set up separate Turbo group.

## 7.7 Setting up Wi-Fi Connection

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

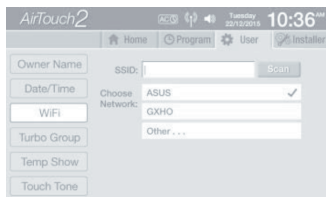
The connection can be carried out by scanning or manual input.

- Touch 'User' and then 'WiFi' to enter the 'Wi-Fi Setup' screen. If AirTouch 2 is currently connected to a WiFi network, its SSID name will be ticked as shown.
- If the wireless network SSID is known, touch 'SSID field' to display the keyboard on screen and then input first few characters of the SSID. Touch 'Enter' to confirm the SSID input.
- Touch Scan to start scanning for available Wi-Fi networks/routers. Or Touch Other... to bring up the manual input (go to step e)



**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.**

- On completion of the scan, up to two found routers with their SSIDs starting with the input characters will be displayed. 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), or touch 'Other' to manually input.



- e) Touch the password field to enter the password of the Wi-Fi network. Touch 'Enter' to confirm. In manual input, after inputting correct SSID and password, Security has to be chosen before connecting



**Choosing found WiFi Networks**

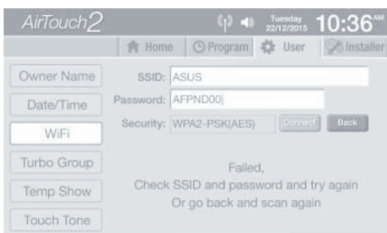


**Manual WiFi Network Input**

- f) Touch Connect to connect the desired WiFi network. 'Connecting' will appear on the screen.



- g) The AirTouch 2's screen will display 'Connected' if the connection was successful. If Wi-Fi connection failed 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. 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 2 applications on your smart devices to control AC or zoning.



## 7.8 Testing Damper On/Off

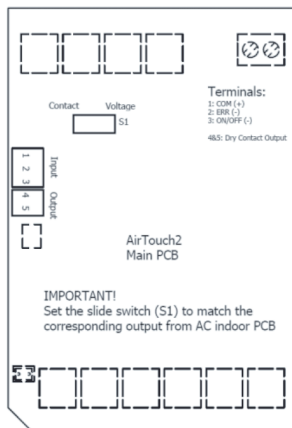
- Switch on the air conditioner.
- Enter the home screen of AirTouch 2.
- Touch the group buttons to turn groups on or off to check if the dampers are correctly connected by feeling the air at the outlet.
- The Turbo group can be tested by selecting the relevant chosen group as Turbo mode in the 'User Settings' and then press the group button until active turbo mode is displayed on the screen for that particular group.

## 7.9 Wiring Diagrams

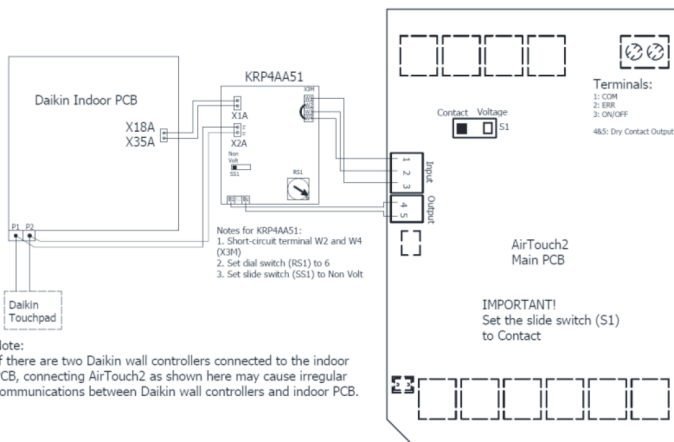
### 7.9.1 On/Off Control AC Wiring

**Note: The following AC ON/OFF Control Drawings are not applicable when an AC Gateway Module & RS485 Cable for Full AC Control have been supplied. Please refer to 7.9.2 for the Gateway Drawings.**

#### a. Generic Wiring Diagram

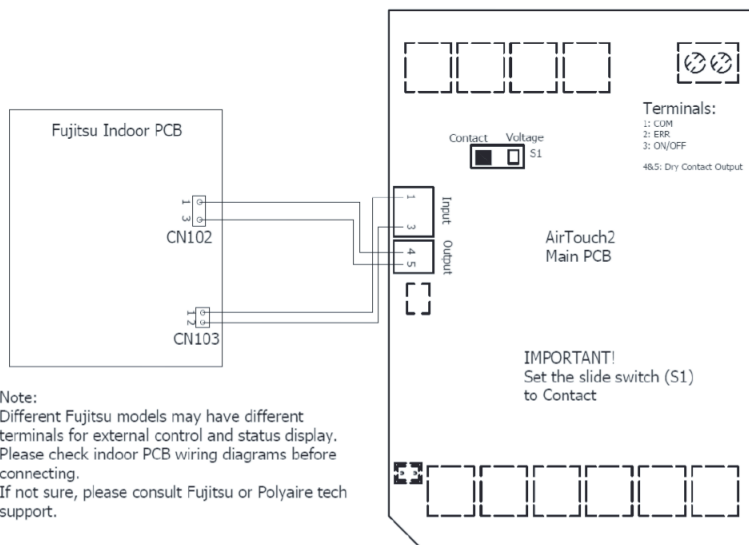


#### b. Wiring Diagram for Daikin



**Note:**  
If there are two Daikin wall controllers connected to the indoor PCB, connecting AirTouch2 as shown here may cause irregular communications between Daikin wall controllers and indoor PCB.

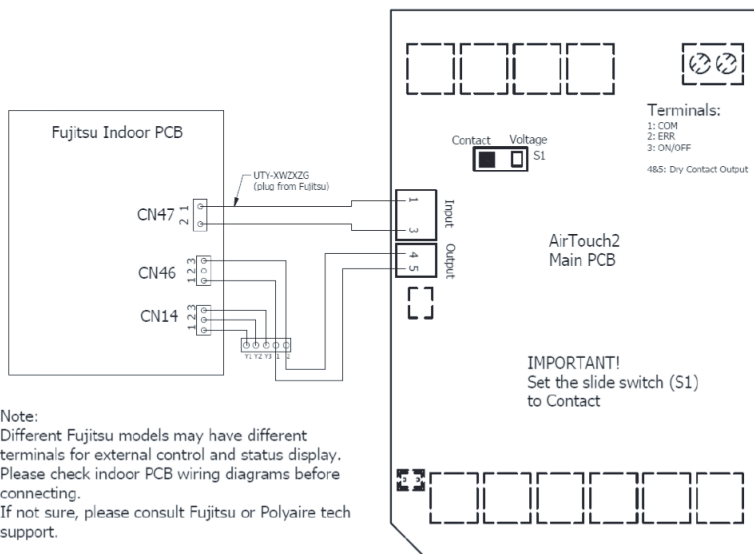
### c. Wiring Diagram for Fujitsu



#### Note:

Different Fujitsu models may have different terminals for external control and status display. Please check indoor PCB wiring diagrams before connecting. If not sure, please consult Fujitsu or Polyaire tech support.

**For ARTGxxLHTA**

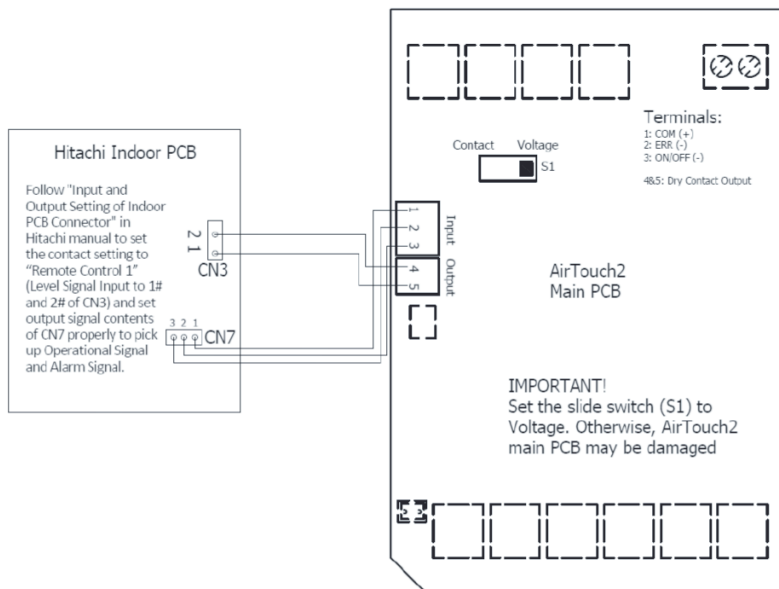


**Note:**

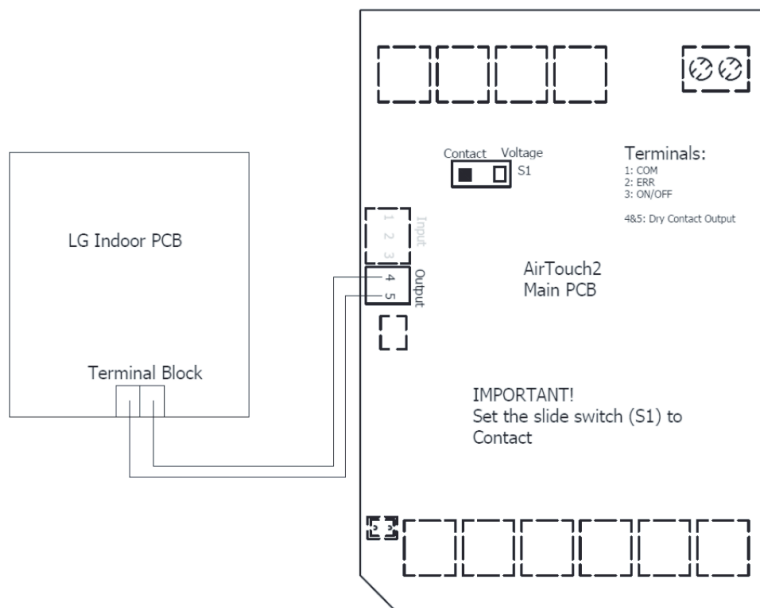
Different Fujitsu models may have different terminals for external control and status display. Please check indoor PCB wiring diagrams before connecting. If not sure, please consult Fujitsu or Polyaire tech support.

**For ARTGxxLDTA**

#### d. Wiring Diagram for Hitachi

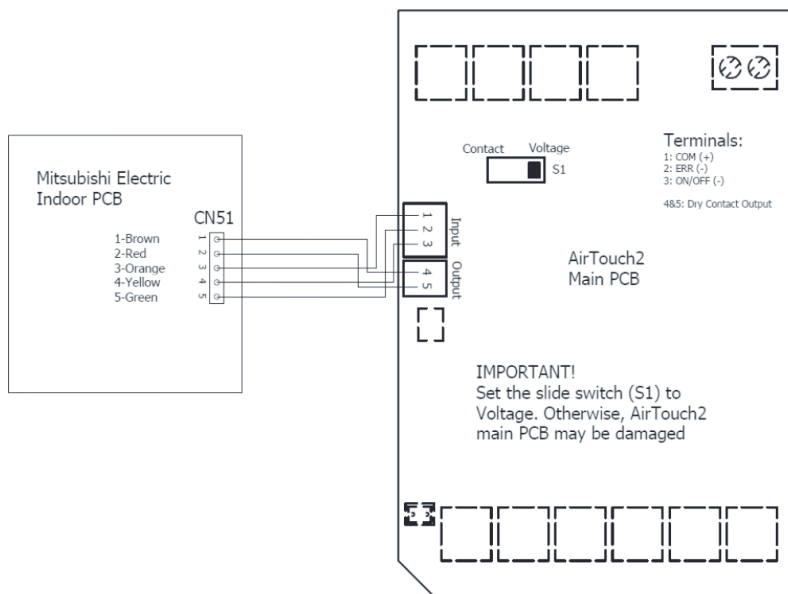


### e. Wiring Diagram for LG

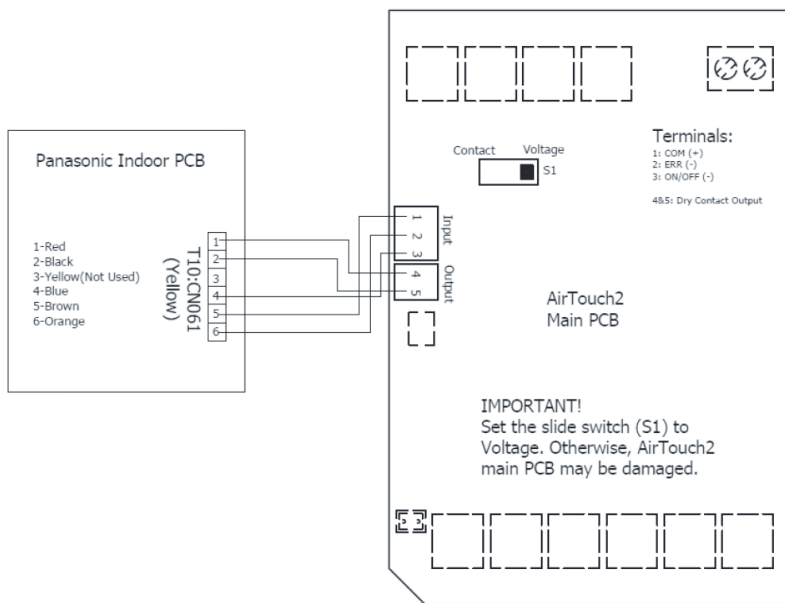




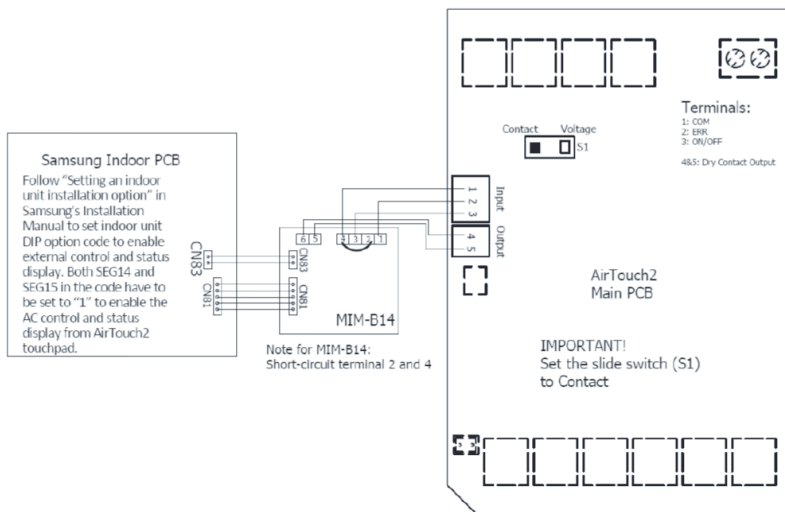
## f. Wiring Diagram for Mitsubishi Electric



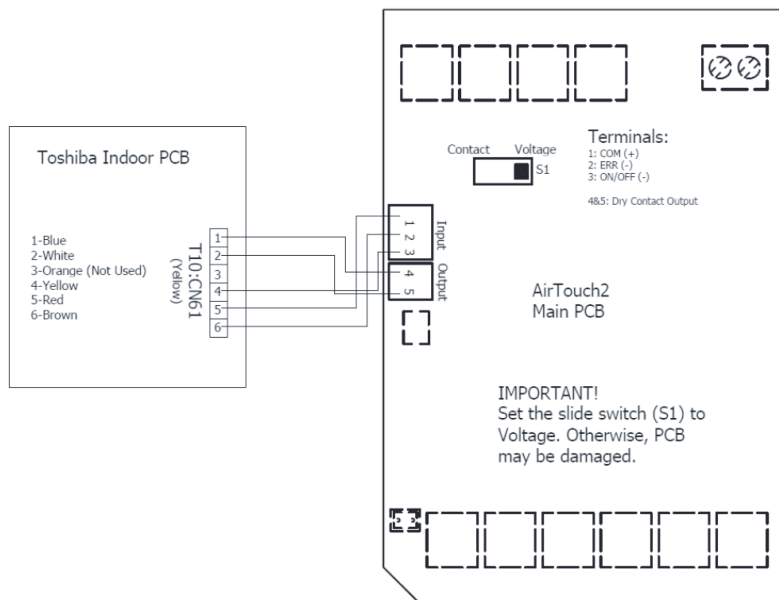
## g. Wiring Diagram for Panasonic S Series



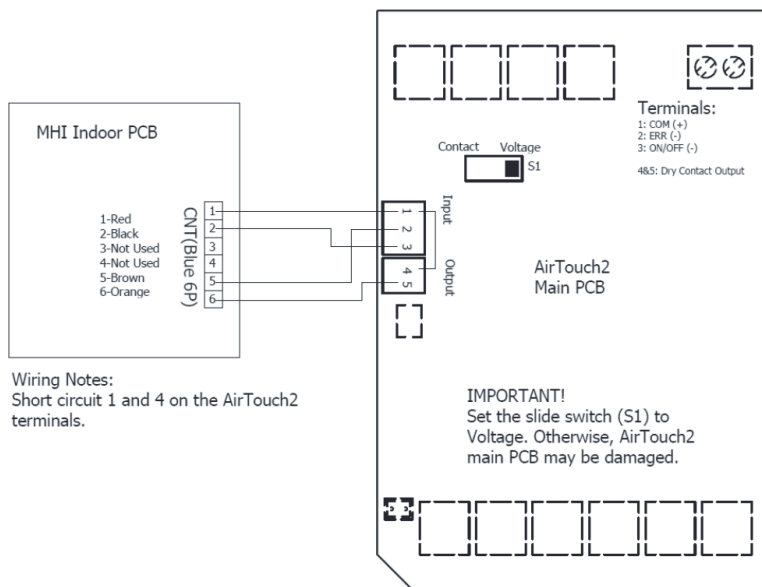
## h. Wiring Diagram for Samsung with MIM-B14



## i. Wiring Diagram for Toshiba



## j. Wiring Diagram for Mitsubishi Heavy Industries (MHI)

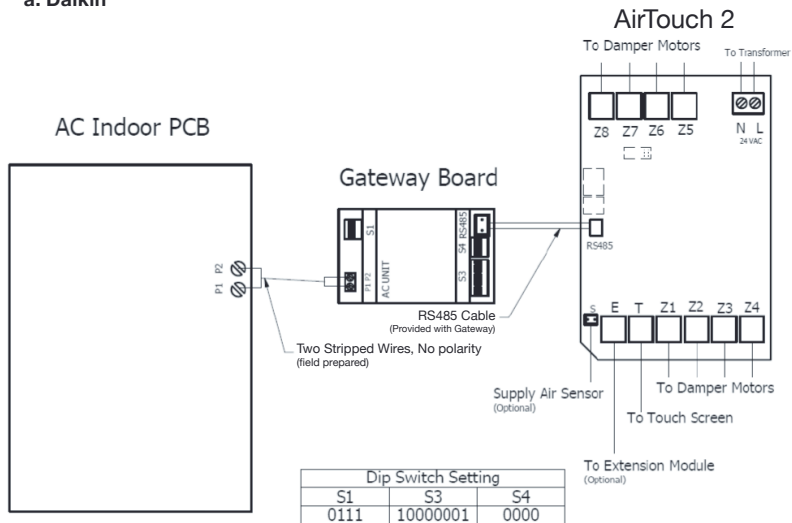


### **7.9.2 Full Control AC Wiring (with gateways)**

- All AC Units must be initialised with Standard AC Wall Controller connected to AC Indoor Unit.
- Turn power OFF and disconnect Standard AC Wall Controller from AC Indoor Unit if it's not going to be used.
- Refer to relevant AC Gateway Drawings below to connect Gateway.
- Refer to Dip Switch settings (if applicable) on the Gateway Drawings below.
- After completing wiring and dip switch setting, turn power ON.

AC Indoor, Gateway and AirTouch 2 can be powered up at the same time, but power up AC Indoor and Gateway no later than the AirTouch 2.

## a. Daikin



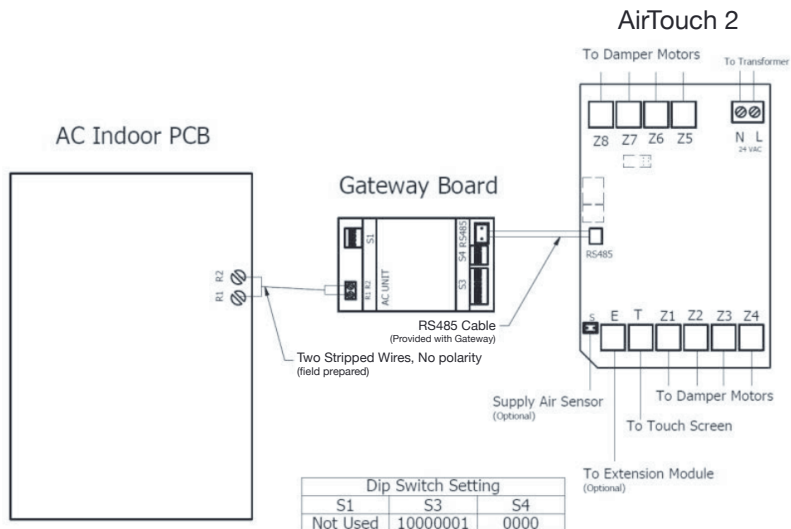
### Note:

If no Daikin wall controller installed, set position 1 of S1 to ON (1).

If AirTouch 2 touch screen thermistor is used for AC temperature control:

- Settings on the AC wall controller: **Set thermostat sensor in the remote controller (Go to Field Setting, find Mode 10, code 2 and change its value to 01). Set AC wall controller to sub controller and remove it if necessary.**
- Settings on the Gateway: **Set switch 1 of S1 to ON (1) (gateway as master)**
- Settings on the AirTouch 2 screen: **Untick Thermistor on AC**
- **Restart the AC and gateway first and then power up AirTouch 2**

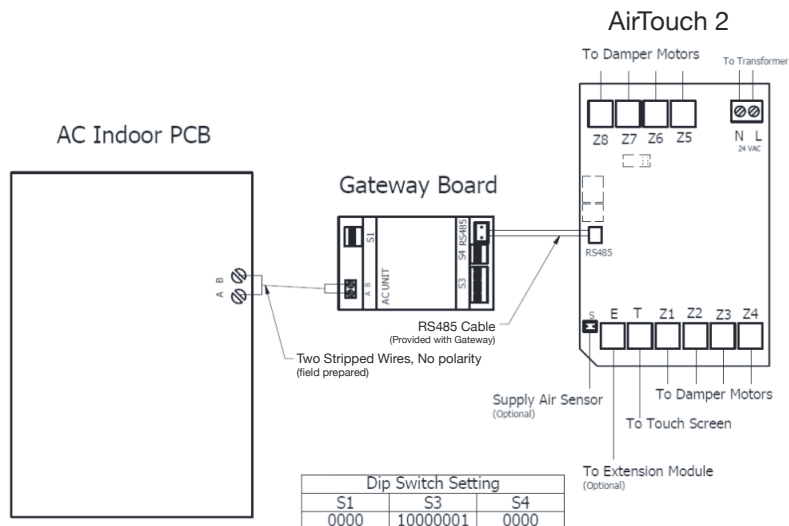
## b. Panasonic



If no Panasonic wall controller installed and AirTouch 2 touch screen thermistor is used for AC temperature control, go to AirTouch 2 AC setting and untick Thermistor on AC.

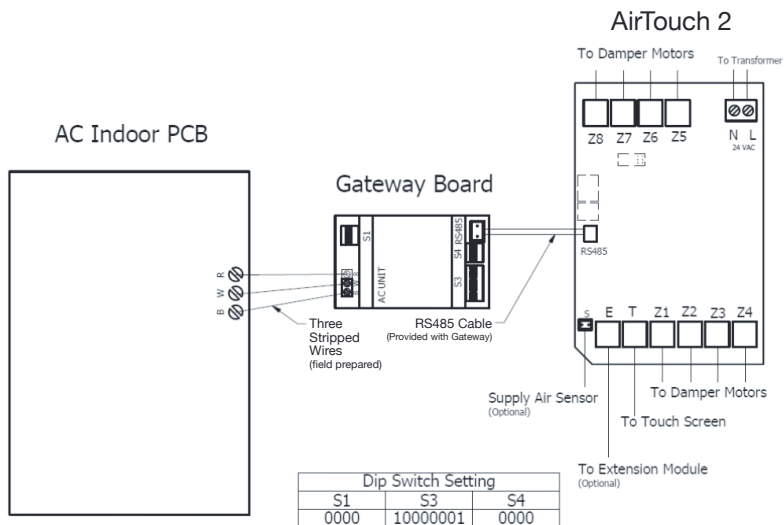


### c. Toshiba



If no Toshiba wall controller installed and AirTouch 2 touch screen thermistor is used for AC temperature control, go to AirTouch 2 AC setting and untick Thermistor on AC.

#### d. Fujitsu



#### Note:

If the room temperature shown next to the set point is 0, set the Fujitsu wall controller as below:

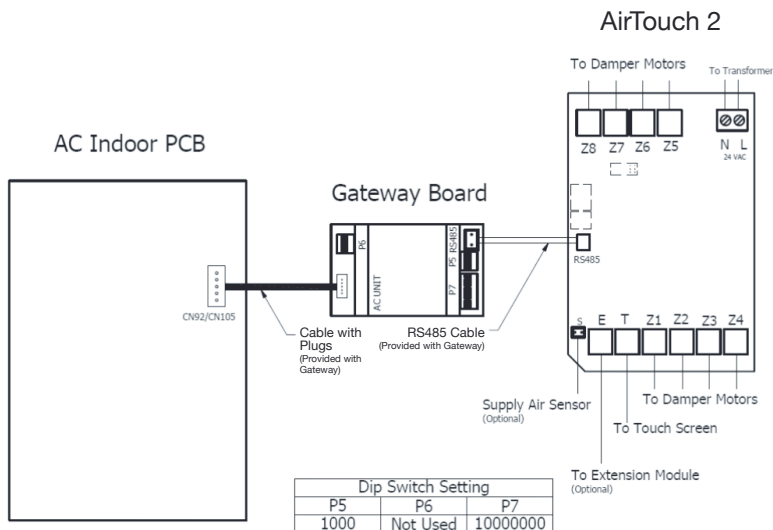
- Go to Service->Function Setting, find Function No 42, and set its value to 01.
- Go to Submenu and change 'Room temp. display' from Off to On.

If no Fujitsu wall controller installed, set position 1 of S1 to ON (1).

If AirTouch 2 touch screen thermistor is used for AC temperature control:

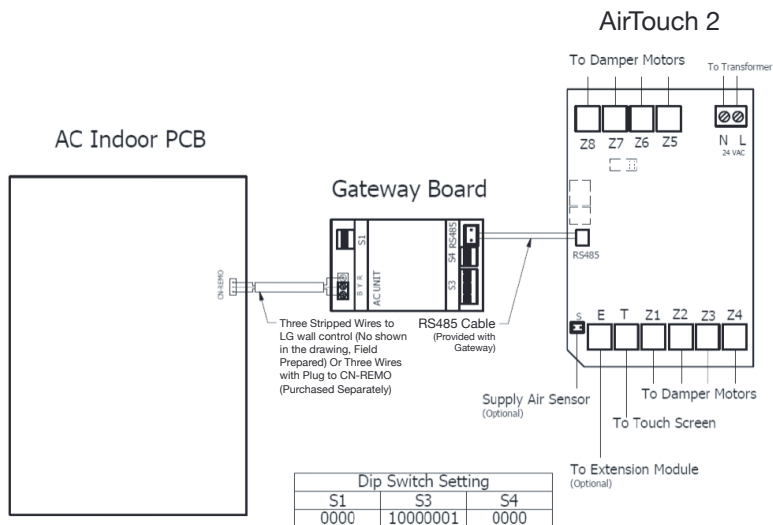
- Settings on the AC wall controller: **Set thermostat sensor in the remote controller (Go to Service->Function Setting, find Function No 42, and set its value to 01. Then select Remote controller sensor for room temperature)**
- Settings on the Gateway: **Set switch 1 of S1 to ON (1)**
- Settings on the AirTouch 2 screen: **Untick Thermistor on AC**
- **Restart the AC and gateway first and then power up AirTouch 2 or power them up at the same time**

#### e. Mitsubishi Electric



If no Mitsubishi Electric wall controller installed and AirTouch 2 touch screen thermistor is used for AC temperature control, go to AirTouch 2 AC setting and untick Thermistor on AC.

## f. LG



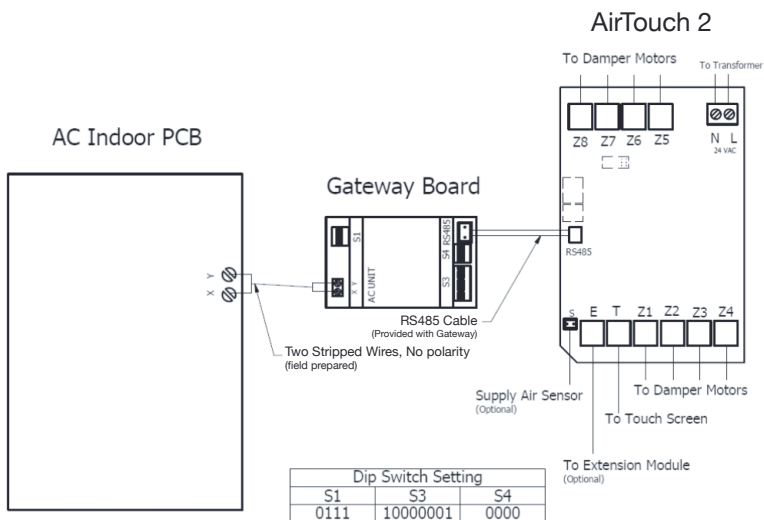
### Note:

If no LG wall controller installed, set position 1 of S1 to ON (1).

If AirTouch 2 touch screen thermistor is used for AC temperature control:

- Settings on the AC wall controller: **Set thermostat sensor in the remote controller (Go to Function Setting (Zone->Setting->Sensor), change it to REMO.**
- Settings on the Gateway: **Set switch 1 of S1 to ON (1)**
- Settings on the AirTouch 2 screen: **Untick Thermistor on AC**
- **Restart the AC and gateway first and then power up AirTouch 2 or power them up at the same time**

## g. Mitsubishi Heavy Industries (MHI)



### Note:

If no MHI wall controller installed, set position 1 of S1 to ON (1).

If AirTouch 2 touch screen thermistor is used for AC temperature control, go to AirTouch 2 AC setting and untick Thermistor on AC.

Set positions 2 and 3 of S1 as per the table below according to the indoor fan speeds:

Switches of S1 1 2 3 4	Binary Value	Description
x off off x	x00x	Indoor unit has 1 Fan Speeds
x off on x	x01x	Indoor unit has 2 Fan Speeds
x on off x	x10x	Indoor unit has 3 Fan Speeds
x on on x	x11x	Indoor unit has 4 Fan Speeds

## 7.10 Downloading and Installing AirTouch 2 Application on Mobile

AirTouch 2 applications can be downloaded from the following locations. The applications are available free of charge.

**For Android Phones:** Go to Market / Google Play store from your Android phone and search for AirTouch 2 application developed by Polyaire. After downloading the application, open the file and follow the prompts to install the application on your phone. The AirTouch 2 App supports Android 3.0. and newer.

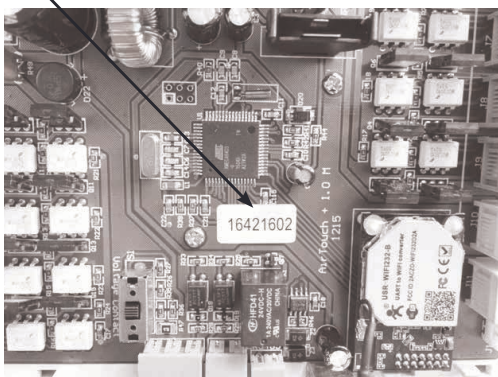
**For iPhones:** Go to the App store and search for AirTouch 2 application developed by Polyaire. Tap on the AirTouch 2 App and press Install. Enter your iTunes password and the AirTouch 2 app will be automatically downloaded and installed on your iPhone. The AirTouch 2 App supports iOS 8.0. and newer.

When mobiles and AirTouch 2 are all connected to the same WiFi network, the AirTouch 2 app will run straight away and the control interface will come up. If the mobiles and AirTouch 2 are not in the same WiFi network, you'll need internet connection (by other WiFi or 3G/4G network) and password to run the app. If it's the first time to run the app via internet and the app has not success fully run on the same WiFi network as the AirTouch 2 before, you will need the device ID which is an eight digit number and password to run the app successfully.

The device ID can be found:

1. On the touch screen when you get to the Installer's setting page
2. On the PCB of main module of AirTouch 2 as shown below

**Device ID**



**NOTE: Read the User Manual for accessing various functions of the Mobile Apps.**

## 8) Troubleshooting Guide for Installers

No	PROBLEM	SOLUTION
1.	WiFi setup does not display the required router	<ol style="list-style-type: none"> <li>Check if the power is turned ON to the router.</li> <li>Check the WiFi module on the main board is plugged in properly</li> <li>Check if the antenna is attached to the WiFi module securely</li> <li>Move the AirTouch 2 module as close as practical to the router (1.5-2 metre distance) and carry out the WiFi setup process.</li> <li>Adjusting the antenna or the AirTouch 2 main module position will help connect the router with the AirTouch 2 system.</li> <li>Check the router settings for the following               <ul style="list-style-type: none"> <li>DHCP server settings is turned ON</li> <li>SSID (Wireless Network name) is visible.</li> <li>If the Mac filter is enabled, enter the Mac address of the AirTouch 2 system (located on the back casing of the AirTouch 2 module) to the Router Mac Filter settings to allow the router to communicate with the AirTouch 2 module.</li> </ul> </li> </ol>
2.	WiFi setup displays 'CONNECTION FAILED'	<ol style="list-style-type: none"> <li>Check if the password is correct</li> <li>Check if the SSID name is too long (should be less than 22 characters) or password is too long (should be less than 20 characters)</li> </ol> <p>Use manual input for correct SSID and password and choose proper security mode</p>
3.	AC unit does not respond from the AirTouch 2 touch screen	<ol style="list-style-type: none"> <li>Check if the Power to the AC unit is switched ON.</li> <li>Check if the AC unit has been connected to the AirTouch 2 system according to the appropriate wiring diagram.</li> <li>Check if the correct brand of the AC unit has been selected in the AC setup (Page 18).</li> <li>Check the AC unit instruction to ensure if a third party controller is enabled to turn the unit ON/ OFF.</li> </ol> <p>In case of gateway connection, check dip switches on the gateway are set to correct position and the green LED is flashing regularly.</p>



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