Bluetooth SMART

InfraRED

SmartAirCon

The worldwide indoor climate control solutions expert

IR Motedem
BXT-590

Version 1.2

24

Remotec
TECHNOLOGY LTD.

About the company

Remotec Technology Limited is the company that invented the concept of Universal Remote Controllers (URC) back in the 90's and had since been a manufacturer and solution designer for many companies and brand around the world that requires infrared remote controllers. To date, the company has also supported many innovative designs of infrared remote controllers in the form of new Internet of Things (IoT) connected devices.

SmartAirCon™ is designed as a specific solution to urban city challenges with the increasing use of air conditioners and the problems experienced by many utilities and energy companies on demand side management. SmartAirCon™ allows a user to have control in programming and scheduling to remotely control more than just one air conditioners.

SmartAirCon™ received the prestigious 1st prize award from Hong Kong Institution of Engineers' Electronics Division first Smart City IoT Development Project and IngDan IoT Award 2nd prize in 2016 and the product has further been proposed by the Hong Kong's Smart City Consortium to be one of the ioT sensor-driven solution to address urban cities problems in energy management. Remotec Technology Limited is a corporate sponsor to the World Green Organization, a corporate member of the Smart City Consortium and the Hong Kong Electronics & Technologies Association and the Hong Kong Electronics Appliance Industry Association. More details about the company are available from the www.Remotec.com.hk website.

FCC AND INDUSTRY CANADA COMPLIANCE

Regulatory information

FCC ID : M7N-BW8590

FCC Compliance Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

IC Notice

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) This device may not cause interference, and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

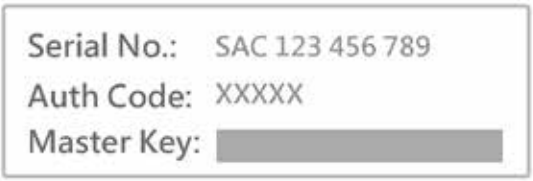
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditionssuivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warning

- Use only compatible wall adapter/wall charger (Output 5V/1A) with a Micro USB socket for powering this device.
- To guarantee personal safety, please do not use this device or kept in close vicinity (closer than 10cm) of a pacemaker.
- Do no insert any headphone to the device.
- Supervise children when using the device.
- This product is not a toy.

Serial No, Auth Code and Master Key (Important)

- **Please affix the label provided to you in the package to the back of the IR Motedem or keep it in a safe place.**
- When registering your IR Motedem with our SmartAirCon app, you will be asked to input the Serial No and Auth Code to initialize the setup.
- The Master Key is used only when the user needs to authenticate to the system for in an event to delete or reset the user's data, settings and account information (as commonly found in moving houses or reselling the device*)



** When reselling the device or giving it to a friend, it is recommended to use this Master Key to delete or reset all account and setup information.*

Warranty & Support

Remotec Technology Limited warrants to the original purchaser that this product will be free from defects in materials and workmanship under normal and correct use for a period of one (1) year from the date of original purchase. This product will be replaced free of charge if it has been proven to be defect within the one (1) year warranty period. This warranty does not cover cartons, carrying cases, batteries or power adaptors, broken or devices that is connected with this product. Any further obligation than listed above is excluded. To obtain warranty service during the warranty period, please contact Remotec Technology Limited at the email and number supplied in this section to obtain a RMA#. Please take note that an original proof of purchase from an authorized dealer is required to prove its eligibility for warranty support.

Contact for warranty support

Web: www.SmartAirCon.co/support
Email: service@SmartAirCon.co

Manufacturer RMA# Support :

Hong Kong (Tel) 852-2270-9238

Downloading the SmartAirCon app

Thank you for your purchase of SmartAirCon™ IR Motedem BXT-590, this IR Motedem will work with our SmartAirCon™ mobile application together to provide comfort, convenience and control of your room-based air conditioners and fans. It will also control other consumer electronic appliances such as TVs, set top boxes and OTT boxes.

The SmartAirCon™ mobile app are available for download in the Apple App Store. For Android users, the Android version of the app is still under construction. It will be available in late July 2017 at Google Play Store*.

Available on the App Store

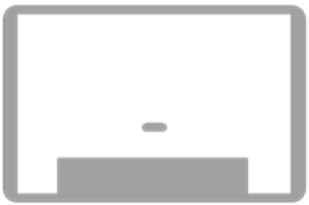
SmartAirCon

** Android App available in late July 2017*

ANDROID APP ON Google play

What does this IR Motedem do ?

Thank you for your purchase of SmartAirCon™ IR Motedem BXT-590, this IR Motedem will work with our SmartAirCon™ mobile app together to provide comfort, convenience and control of your room-based infrared-controlled air conditioners and fans. It will also control other consumer electronic appliances such as TVs, set top boxes and OTT boxes provided they are all using infrared remote controllers.



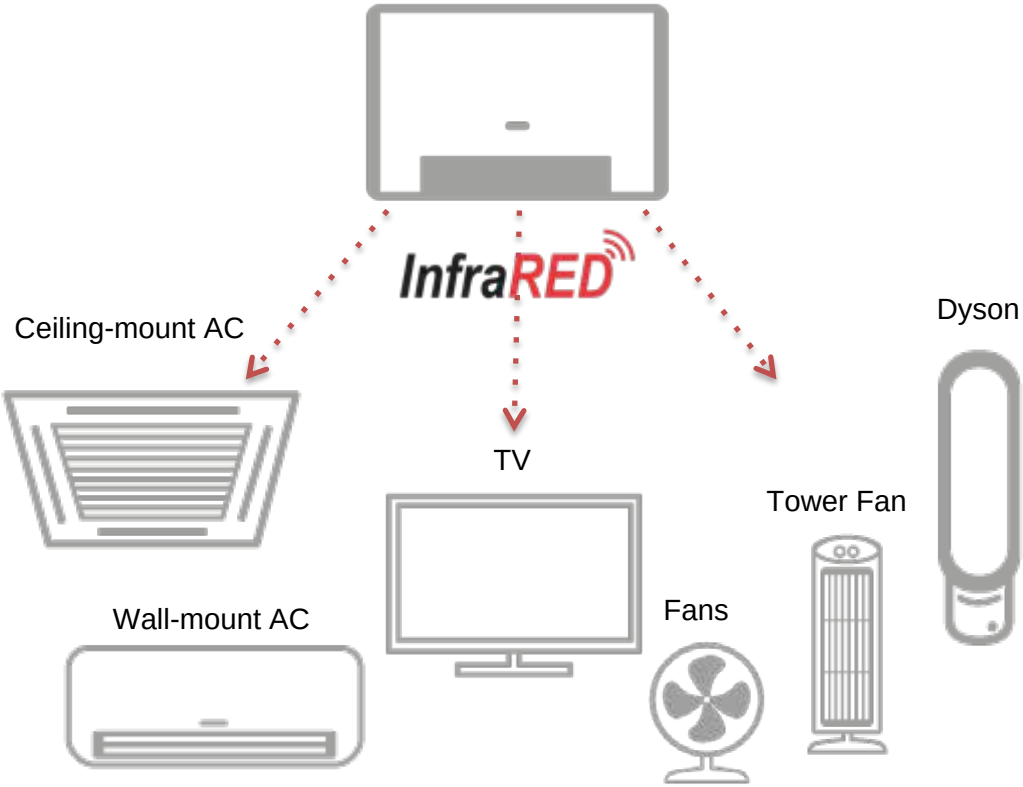
What this IR Motedem is and is not ?

Our company is manufacturer of universal remote controllers for over 25 years and we have been developing IR codes and chipsets solutions for many consumer electronics brand around the world. This IR Motedem now combines the convenience of a mobile phone, latest cloud-based technologies and hardware device to give you a better experience than traditional remote controllers for indoor climate control.

We have a very good coverage and knowledge in controlling many consumer electronics. This IR Motedem could control over 95% of the infrared-controlled air conditioners most commonly found in the market. Having said that, we may not be able to cover 100% as there are always new brands, new models, new IR codes being developed by the consumer electronics industry.

IR Motedem uses infrared signals to control the end-devices or appliances

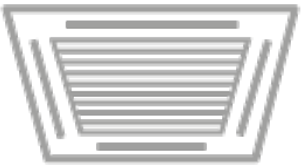
Just like any infrared remote controllers, this IR Motedem will require a direct line of sight to your air conditioners, fans and end devices.



What types of air conditioners are out there ?

There are many types of air conditioners. Those that are supplied with a handheld infrared-based remote controllers could be controlled by this IR Motedem. The most common one is called split-type AC or just simply refer to as ‘Split AC’ in our app. Split AC covers ceiling-mount, wall-mount and free-standing portable air conditioner units. The other type is called ‘Windows AC’ which are typically mounted onto window frame. Please take note that our SmartAirCon only exclusively control those air conditioners that are currently using infrared remote controllers. Those that use a wired wall panel or thermostat panel or dial switch cannot be used with the IR Motedem. In our app, you will need to choose the most appropriate devices to setup and hence knowing which type of air conditioners to setup is important.

Split AC

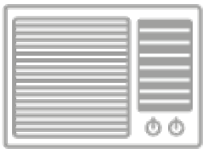


Ceiling-mount

Wall-mount

Floor-standing

Windows AC



Window-mount

Which type of air conditioners do you have ?

What other types of climate control devices are there ?

Besides air conditioners, there are many types of consumer electronics appliances such as room-based heaters, dehumidifiers and electric fans. Not all of these are supplied with a handheld infrared-based remote controllers. The most recently produced ones would come with a small handheld remote controller. In our app, you will need to choose the most appropriate devices to setup and hence knowing what other types of climate control devices to setup is important.

Fans

Bladeless fan

Tower fan

Traditional fan

Dehumidifiers and Heaters

Dehumidifier

Heater

What types of remote controllers are out there ?

Just like air conditioners, many consumer electrical appliance brand have also manufactured different handheld infrared remote controllers and many of these are difficult to program. When setting up the SmartAirCon app, you will need to know which type of handheld infrared remote controller are you using with with which type of air conditioners. The following will give you an idea of which ones are available in the market.

Windows AC

Remote (LCD screen)

Remote (No LCD screen)

Split AC

Remote (LCD screen)

Which type of remote controllers do you have ?

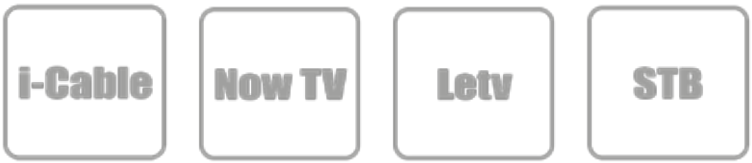
What AV devices could this also control ?

The IR Motedem and the SmartAirCon software could also remotely control other infrared-controlled consumer electronics appliances such as TVs, set-top boxes, DVD and Blue-ray players. However, the user experience is limited to a set of general keys only.

Television sets

Media

Set-top box and OTT TV box



What is the best working environment for IR Motedem ?

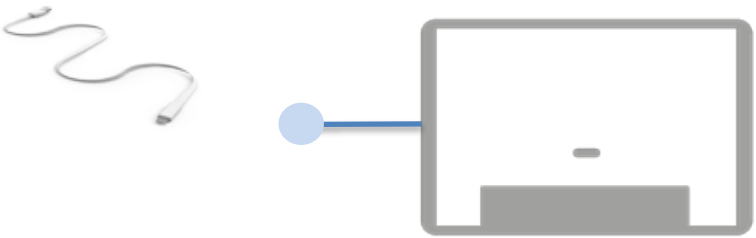
The IR Motedem and the SmartAirCon software app (currently in iOS version) will work well with iPad mini or above and iPad 3rd generation or above as a Host, and you could use your personal mobile such as iPhone 5 or above as the client.

Host

Mobile

What else will you need ?

The IR Motedem is powered by any 5V/1A DC power adapter commonly provided by the consumer mobile industry, Just use any of your older power adapter from an older smartphone with a Micro-USB connector.



The concept of a Host (H) and a Client (C)

This IR Motedem could be setup with an spare smartphone or tablet PC as a host. A host will be able to act as an Internet gateway to provide off-site control and your personal mobile can become the client. Please choose one option below*.

Option 1 > Setting up **with** off-site control

With this option, it means that you could use a spare smartphone or tablet PC to permanently setup at home and provides off-site control and to allow scheduler to run automatically.

Option 2 > Setting up **without** off-site control

For using with your own personal mobile, you could still enjoy many features and benefits of the SmartAirCon system, but you will not have off-site access and your mobile will now act as a host instead.

** The ability to switch your mobile from host to client or vice versa will be available in future release of the app*

Your spare smartphone or tablet PC setting up as a host

You will find an icon indicating the device is being setup as the host.

* *We recommend using a spare smartphone or tablet PC to setup as a host.*

Your mobile setting up as a client

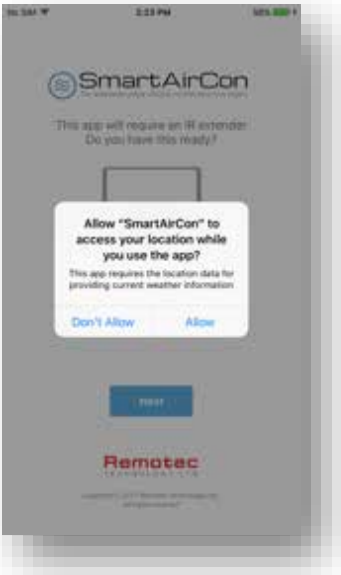
You will find an icon indicating the device is being setup as the client

* *We recommend using a spare smartphone or tablet PC to setup as a host*

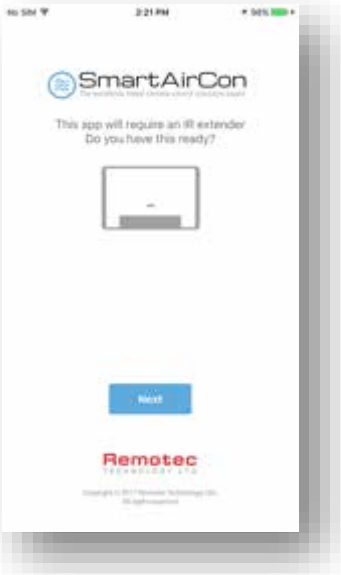
What does the LED indicator light do ?

The LED lights has 3 distinct modes or conditions and it helps a user to identify the status of the IR Motedem

1) When the LED is blinking in BLUE color, it means the IR Motedem is not connected to any host. In Bluetooth BLE terms, it means it is in advertising mode – looking for a connection.
2) When the LED is not blinking, it means the IR Motedem is now connected to a host.
3) When the LED is blinking in RED color, it means it is now in non-functional mode.



SmartAirCon app will requires you to switch on the GPS to access your location and this information will help determine how to setup the outdoor weather information for you app.

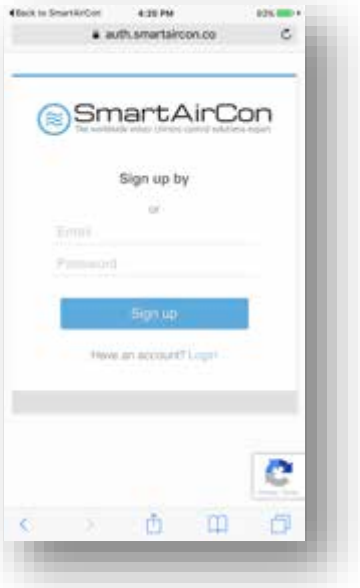


SmartAirCon app will requires you to switch on the GPS to access your location and this information will help determine how to setup the outdoor weather information for you app.

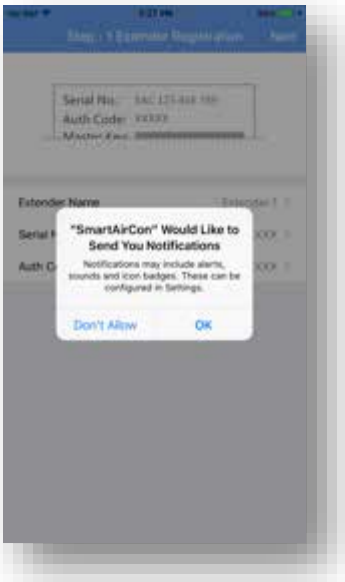
Creating an account

Create you login account using your own email address or simply click on to use your Google, Microsoft or Facebook* login account as a login option.

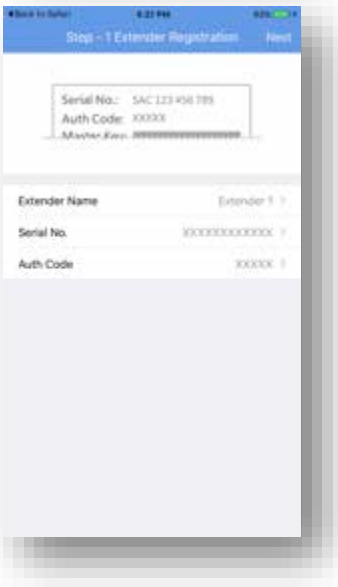
**Facebook login will be available in July*



When choosing to signup by email, you will be sent a verification email and this email could be wrongly sent to the “spam folder”. Please check all inbox and spam folder.



SmartAirCon app will requires you to switch on the notifications options. This is important as all status and temperature information uses notifications option to update.



In each of the IR Motedem, there is a separate card showing the Serial No, Auth. Code and Master Key.

Registering the device

In this section, you can name the Extender Name section as you wish or leave the name “Extender 1” as it is shown.

You can then key in the Serial No next to identify to our system that you have a genuine IR Motedem.

Serial No begins with ‘SAC” followed by 9 numeric digits.

You can then key in the Auth. Code next to identify to our system that you have a genuine IR Motedem.

Auth. Code is a 5 digit number.

Home Screen

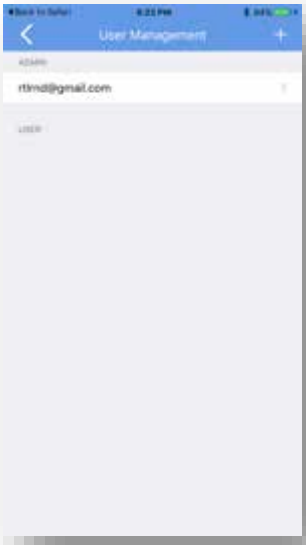
Once you have registered, you will be presented with the Home Screen.

Our software development team is constantly improving our user interface and user experience and this screen may be changed from time to time.

When your home screen is idle more than 60 seconds, it will enter into the screen saver mode for which you could use the digital photo album feature.

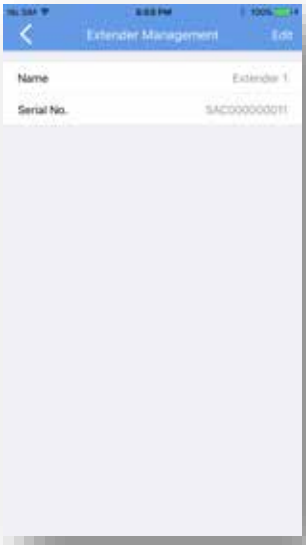
A digital album showing indoor temperature and weather data

User Management



In this section, you can name the Extender Name section as you wish or leave the name “Extender 1” as it is shown.

Extender Management



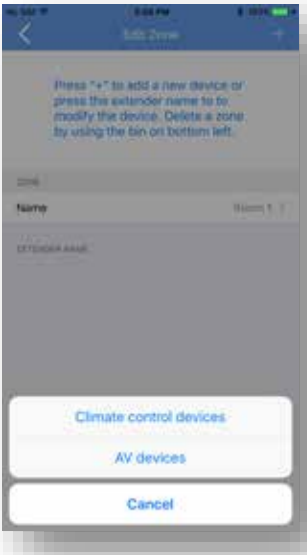
Zone Management

In this section, you can name the Zone name by selecting the > sign and then retype the name of your zone or simply leave it as it is with “Room 1”.

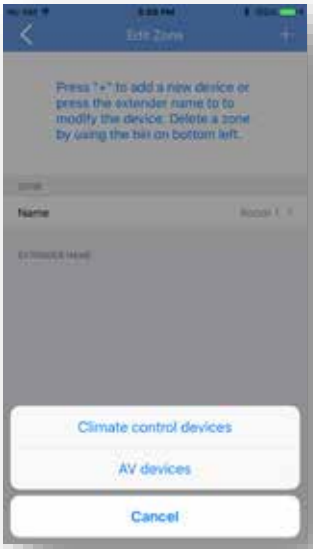
You can add new zone by press ‘+’ sign on the top right hand side.

Edit Zone

In this section, you can add a new zone by pressing ‘+’ at the top right.



Once you have added a new zone and/or changed name, you can now add a new appliance or devices by press ‘+’ sign on the top right hand side.

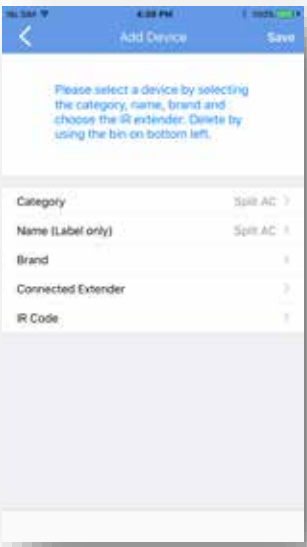


Add Device (Climate control devices)

You will then be prompted for what type of appliances or end devices would you like to setup for.

There are two general types :

- Climate control devices
- AV devices



If you set up for 'A/C' or 'Fan', please choose 'Climate control devices" only.

You will then be presented a series of options to continue with the setup of the end devices with category, brand, which extender (some household may have more than 1 IR extender) and the type of IR code required to control you're A/C or fan end device.

There are 5 categories:-

- Fan
- Fan Heater
- Split AC
- Window AC (without LCD remote)
- Window AC (with LCD remote)

Pick the one most appropriate to the end device you are setting up now.

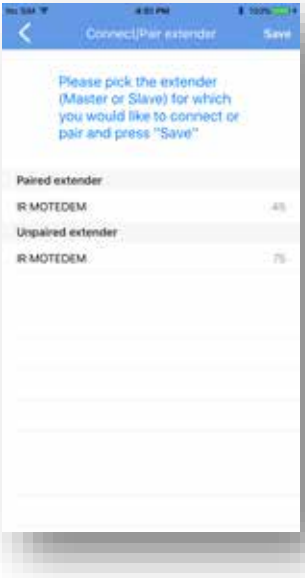
**Read our category section to help you understand more about different end-devices*

You could create a name for this device or simply leave the label as it is.

Please note that this is just a label.

Next you could select the brand of your device. (e.g. Daikin)

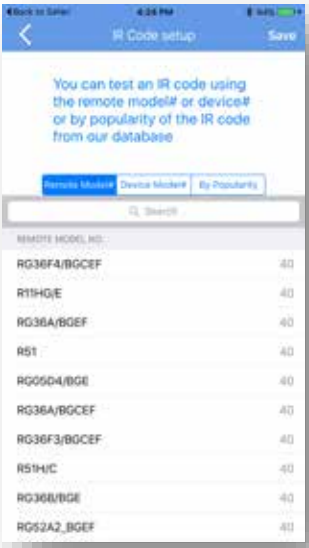
Remotec Technology Limited has a very wide coverage of brands sold in the international market. The list will be very long, so it is best to enter the brand name in the search bar.



Next, you could select IR Motedem that is closest to you by clicking on that specific IR extender to connect.

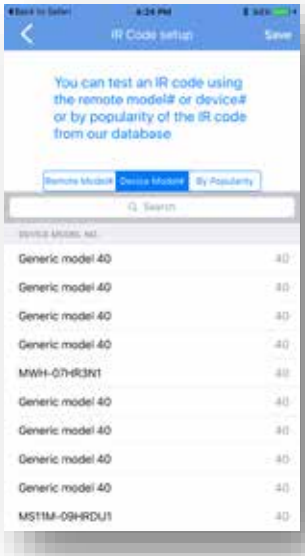
You can determine the closest IR Motedem from the numeric number on the right. The bigger the number, the stronger the signal.

Please take note that your SmartAirCon is designed to be able to detect more than one IR Motedem.



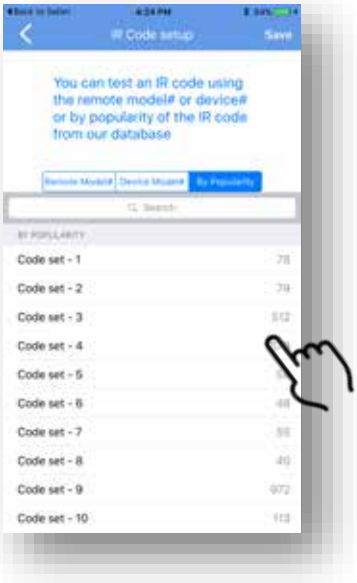
You can setup the IR code by using the model number of the remote controller.

Sometimes, manufacturers print their remote controller model number onto it. And some just don't have a model number at all.



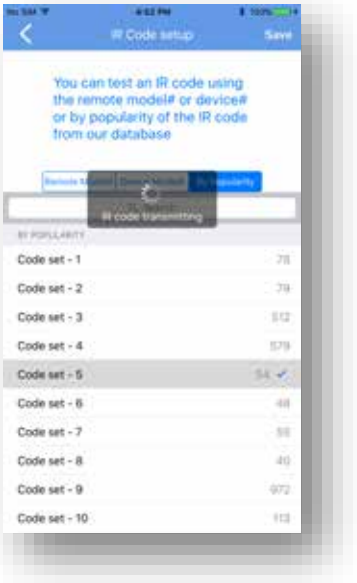
Alternatively, you can setup the IR code by using the actual device model number.

Sometimes, manufacturers print their model number onto the unit itself.



You can setup the IR code by using the our popularity ranking for that brand.

This popularity ranking is for indication only as there is no guarantee that the model of your end-device is necessarily on top of the list.

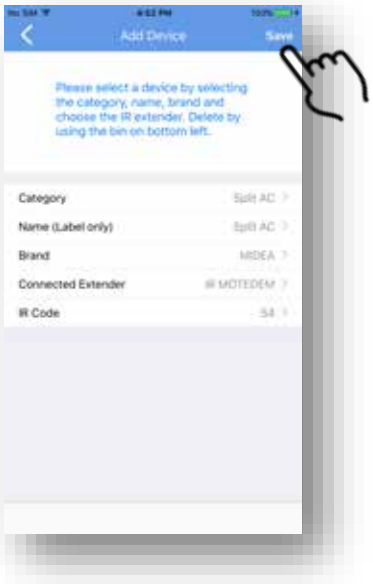


When you select a code, the system will make an action to retrieve the respective IR Code from our Cloud-based IR code database and start to transmit through the IR Motedem.

At this point, please observe whether you have hear the beep sound from your air conditioners or fans.

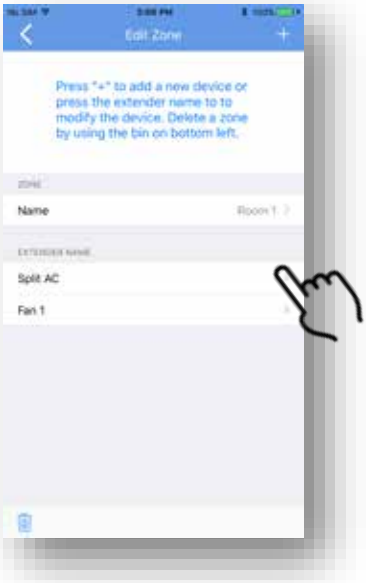
If there is a beep sound, it means that this code is likely available for use.

Save Device



Remember to press ‘Save’ to save all the settings.

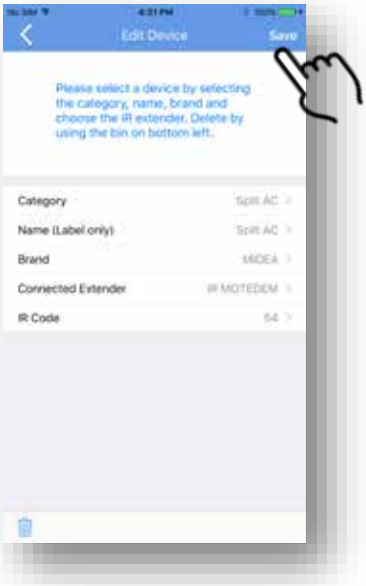
Edit / Add Device



You will see this screen again once you have saved the setting from previous screen.

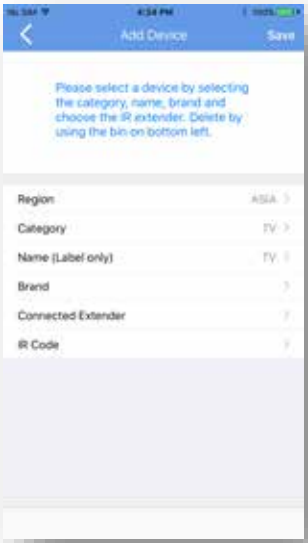
Within each zone, you can name a specific IR Extender to control a number of devices. Simply press + for adding device.

Repeat for adding more devices.



When you are finally finished, you can press 'Save' to save devices again.

Add Device (AV)



When you click AV device, you are now presented a menu to select the region, category, Name (label only), Brand, the IR extender to connect and finally to setup the IR code.

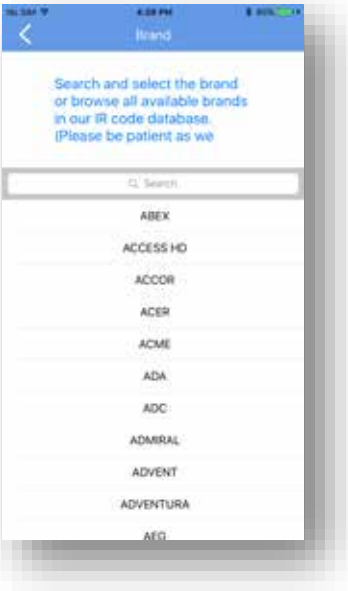
Around the world, the IR codes have been used by many consumer electronics brands and most manufacturers have categorize their end-devices like TV, STB, OTT boxes by geography. It is therefore advise to choose the location you are currently residing to ensure the most appropriate IR codes set will be used to control your end-devices.

There are Asia, Europe, Japan and US to choose from.

One you have selected a region, you are about to select the category of the device. Currently we have the following categories available for programming the IR Motedem.

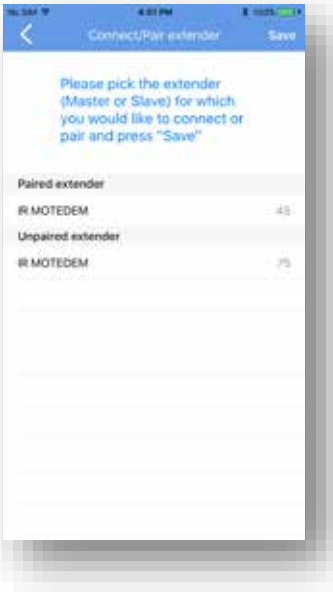
Please take note that the control functions for A/V devices will be limited set of keys only.

Select the TV category will help you gain access to the TV IR code library for setup

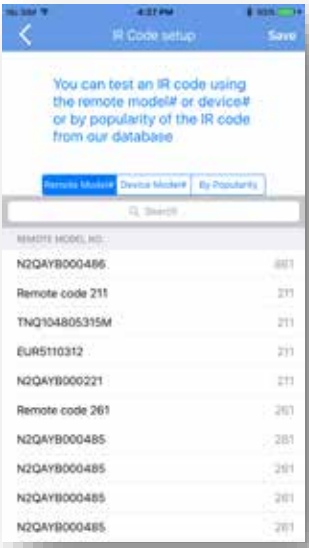


You can also select the IR Code using the device model number of the appliance.

This is sometimes printed or available from the original user manual for that device.

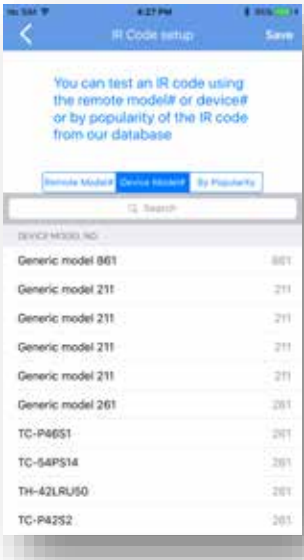


You can select the IR Extender that was previously paired to be the extender to send the IR codes.



Next, you can then select the IR Code using the model number of the remote controller.

This is sometimes printed or embossed onto the controller.



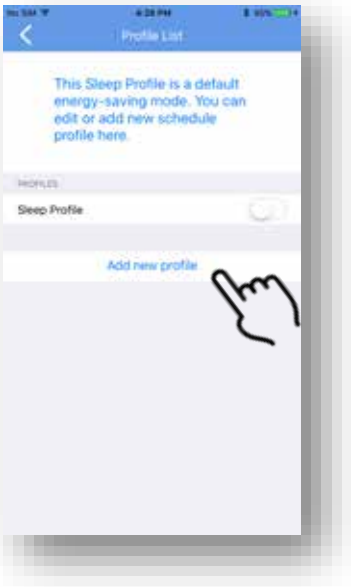
You can also select the IR Code using the device model number of the appliance.

This is sometimes printed or available from the original user manual for that device.

You can then select the IR Code by popularity ranking for that brand.

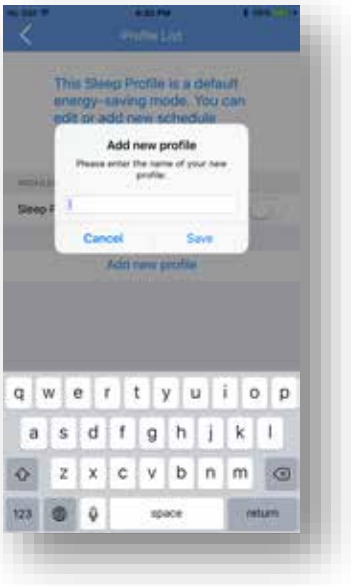
This popularity ranking is for indication only as there is no guarantee that the model of your end-device is necessarily on top of the list This is sometimes printed or embossed onto the controller.

Scheduler - Add Profile



Our scheduler allows you to programme your SmartAirCon flexibly.

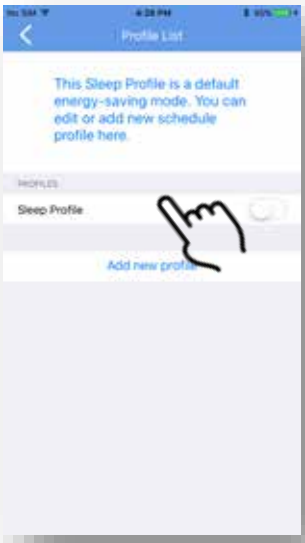
Within which, we have preset an Energy-saving Sleep Profile as an example.



You can add new profile to program your devices and IR Motedem to perform as you wish.

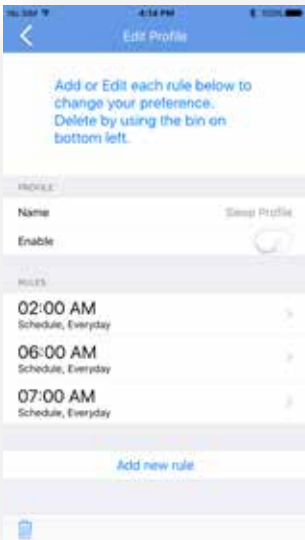
Each profile could be labeled. (e.g. Lunch time or Holiday)

Scheduler - Sleep Profile



Our scheduler allows you to programme your SmartAirCon flexibly.

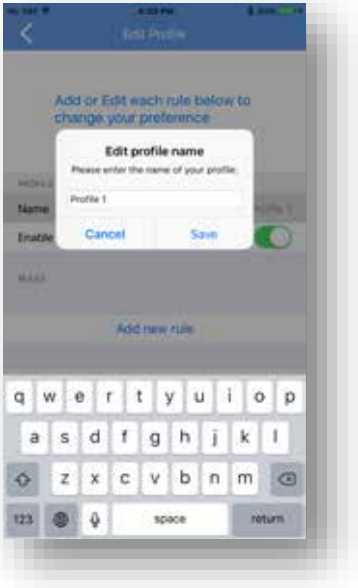
Within which, we have preset an Energy-saving Sleep Profile as an example.



This sleep profile is currently set to change temperature to 26C at 2 a.m.

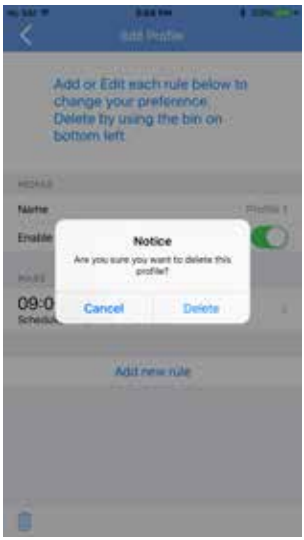
And switch off the AC at 6 a.m. and switch on the fan at the same time.

At 7 am switch off the fan as well.



Edit Profile

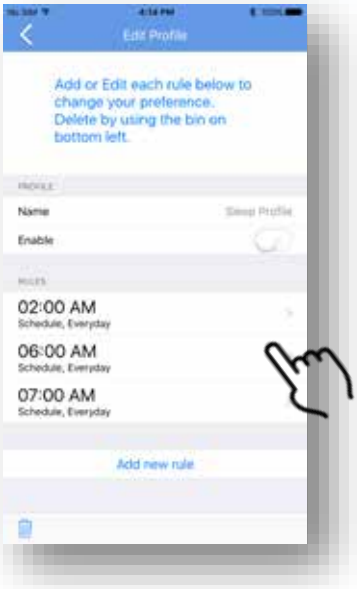
You could change and edit the name of the profile.



Delete Profile

You could delete a profile by pressing the bin on the bottom left and confirm you action by pressing ‘Delete’.

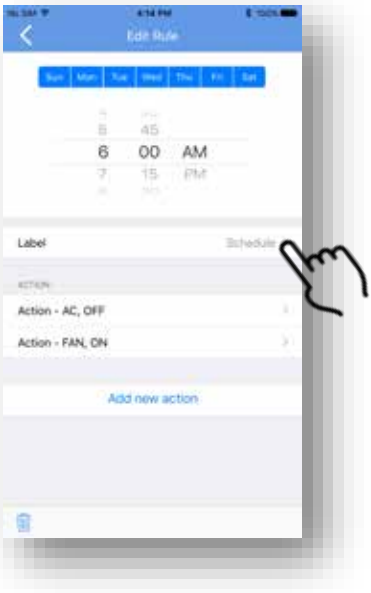
Edit Rule



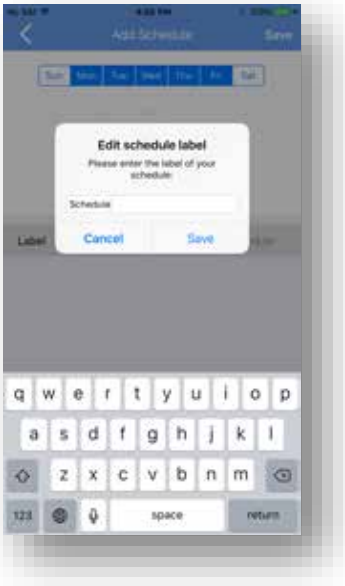
You could choose a rule within the profile.

Scroll up and down to set time, and also select the day of the week.

Edit Rule



Press Label to make any changes.

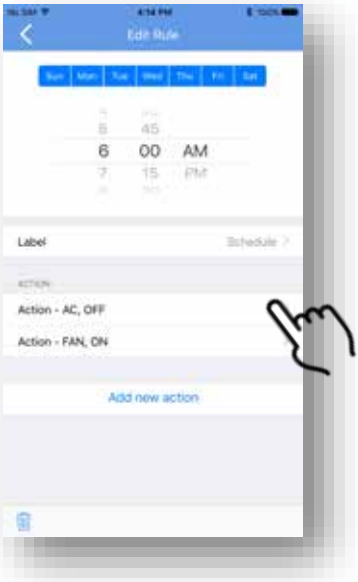


Edit the label according to your need.

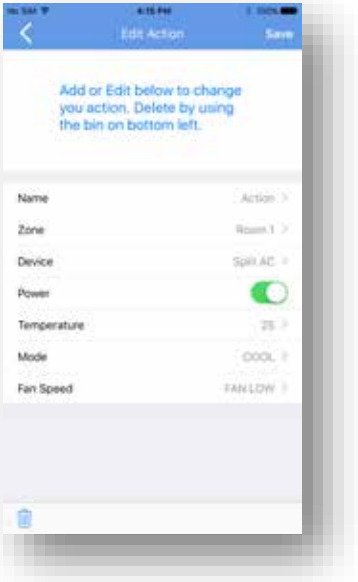
Delete Rule

You can delete a rule by pressing the bin at the bottom left. A message will pop up to ask you to confirm or to cancel the request.

Edit action



Set up (add or edit) each action.

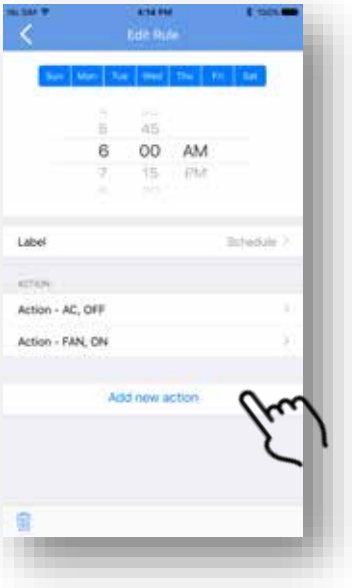


Define within each action, which zone, device and whether to power on/off.

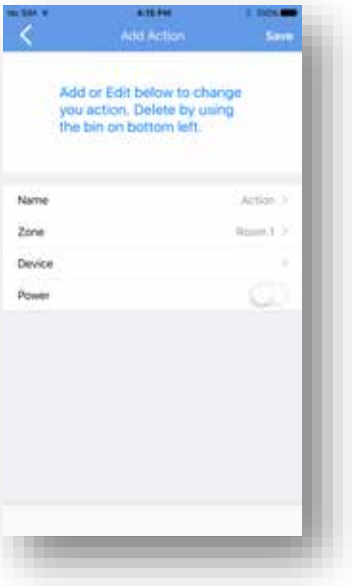
Delete action

You can delete an action by pressing the bin at the bottom left. A message will pop up to ask you to confirm or to cancel the request.

Add New Action

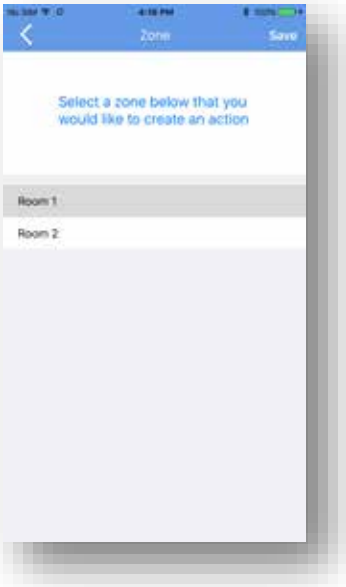


You can add new action by press “Add new action”.



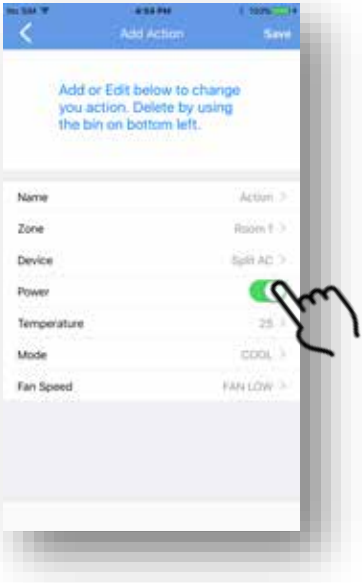
Once you have add a new action, you can define actions - each action, which zone, device and whether to power on/off.

You can edit each action's label.



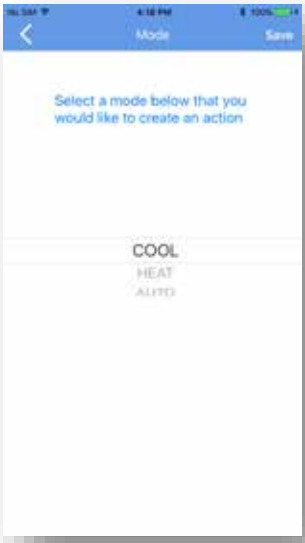
You can select a zone (e.g. Room 1 or Room 2) to be part of the action.

Now select the device to be part of this action.



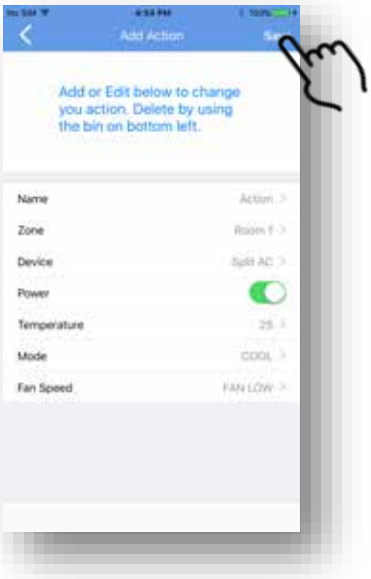
Define within each action, which zone, device and whether to power then on/off.

You can select the temperature for the A/C to be operating on.



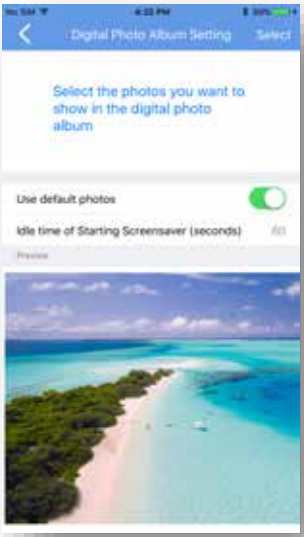
You can select respectively whether to use cool or heat mode. Please take note that not all A/Cs have heat mode.

You can select the fan mode of the A/C.



Once you have select all the options available, you should then save this action by pressing ‘Save’ on the top right hand corner.

Digital Photo Album



Inside the digital photo album setting, there are a series of beautiful pictures. You could also select up to 5 pictures to be presented when the screen enters screen-saving mode.

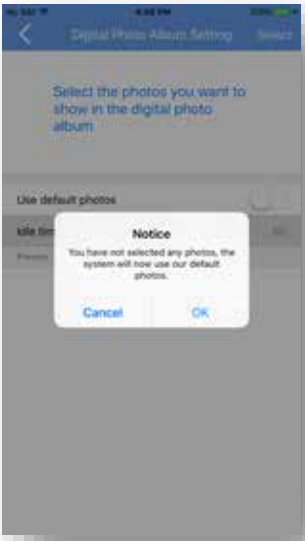
You can select a range of time setting for the screen saving photo album. (e.g. 30 seconds, 1 minute, 3 minutes and 5 minutes)

Select an Album

You could also select up to 5 pictures to be presented when the screen enters screen-saving mode.

In future, the app could support photos stored in other online photo album and storage services.

Due to memory restrictions, you can only select up to 5 pictures to be displayed.



If no photos are chosen to be displayed in the photo album, the app will use the default pictures for.

Check Indoor Coverage

Since the IR Motedem requires good indoor coverage using radio frequency - Bluetooth Smart, it is necessary to determine where is the best possible place to place your host.

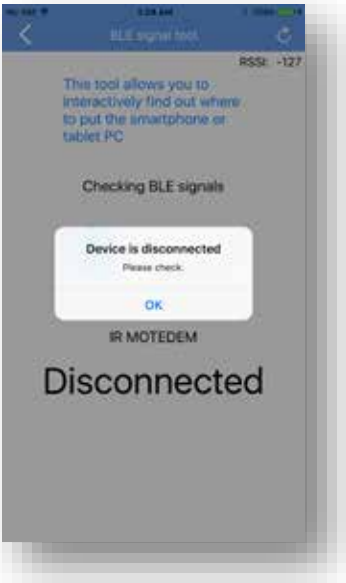
You can click on the Indoor Coverage Tool at the main menu.

You should place the IR Motedem with direct line of sight with the appliance (e.g. A/C and Fan) and then try place the Host (i.e. Smartphone or Tablet PC) with Bluetooth enabled.

When a green color full signal bars appear, it means that the communication using Bluetooth is healthy.

If yellow color and only half full signal bar appears, it means that the communication signal is still adequate but may experience some delay.

If a red color and a very low signal bar appears, it means that the signal is weak and the communication between the host and the IR Motedem will experience disconnection and could result in various application failure.



If a pop up message appears, it means there is no active connection and you should not place the Host too far away from the IR Motedem.

Try to find a place where the signal bar is yellow or green.

Frequently Asked Questions

We are producing a list of frequently asked questions and answers for your reference. The following is an example.

What Smartphone or Tablet PC do I use to control ?

Not all smartphones or tablet devices could be used to control this IR Motedem, only those equipped with Bluetooth BLE 4.0 or above. BLE stands for Bluetooth Low Energy and Unlike traditional Bluetooth, the BLE 4.0 or above is not designed for audio applications like speakers or headphones. BLE offers longer distance reach and for small data transfer between devices. BLE 4.0 and above are now commonly referred to as Bluetooth Smart by the industry. Please check whether your smartphone and tablet PC has already been equipped with BLE 4.0 and above in order to support the use of SmartAirCon app and also the IR Motedem.

Thank you for your purchase of SmartAirCon™ IR Motedem BXT-590, this IR Motedem will work with our SmartAirCon™ Mobile Apps together to provide comfort, convenience and control of your room-based air conditioners and fans. It will also control other consumer electronic appliances such as TVs, set top boxes and OTT boxes.

The SmartAirCon™ Mobile Apps are available for download in both the Apple iOS Store and Android Google Play Store*.

** Android App available in late July 2017*

Technical Support

Problems or Questions ?

Web: www.SmartAirCon.co/support
Email: service@SmartAirCon.co

The SmartAirCon™ Mobile Apps are available for download in both the Apple iOS Store and Android Google Play Store*.

Remotec Technology Limited, Hong Kong
Customer Service Tel (852) 2270 9238

** Android App available in late July 2017*