



# Commercial Air Conditioners 2016



## VRF Control System

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ISO 9001  
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NO.01 100 019209

 GD Midea Heating & Ventilating Equipment Co., Ltd.  
Certificate of Occupational Health and Safety Management System  
Certificate No. 15912S20006R0L-1.

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Note: The data in this book may be changed without notice for further improvement  
on quality and performance.

Midea CAC After-service Application



iOS Version

Android Version

Midea CAC News Application



iOS Version

# Midea CAC

Midea CAC is a key division of the Midea Group, a leading producer of consumer appliances and provider of heating, ventilation and air conditioning solutions. Midea CAC has continued with the tradition of innovation upon which it was founded, and emerged as a global leader in the HVAC industry. A strong drive for advancement has created a groundbreaking R&D department that has placed Midea CAC at the forefront of a competitive field. Through these independent efforts and joint cooperation with other global enterprises, Midea has supplied thousands of innovative solutions to customers worldwide.

There are three production bases: Shunde, Chongqing and Hefei.

MCAC Shunde: 38 product lines focusing on VRF, Split Products, Heat Pump Water Heaters, and AHU/FCU.

MCAC Chongqing: 14 product lines focusing on Water Cooled Centrifugal/Screw/Scroll Chillers, Air Cooled Screw/Scroll Chillers, and AHU/FCU.

MCAC Hefei: 11 product lines focusing on VRF, Chillers, and Heat Pump Water Heaters.



2014-2015 >> Win FIFA World Cup Stadiums project in Brazil Beira Rio, Olympic Games Stadiums project in Brazil Rio de Janeiro and Africa games Stadiums project in Congo Brazzaville successively

2014 >> Launched the All DC Inverter V5X globally, outstanding product performance helps Midea leading VRF market

2011-2014 >> Launched the DC Inverter V4 Plus Series successively, complete product lines help Midea successfully enter the mainstream VRF market

2011-2012 >> J.V. with Carrier LA and Carrier India successively

2009 >> Launched the DC Inverter V4 globally

2008 >> Developed DC inverter technology with Toshiba

2000-2001 >> Cooperated with Toshiba and Copeland, enter VRF field

1999 >> Entered the CAC field



Midea Company Introduction



Midea CAC Introduction





## Control Systems

### Wireless Remote Controller

RM02  
RM05

### Wired Controller

KJR-29B  
KJR-90C  
KJR-86C  
KJR-10B  
KJR-12B  
KJR-120B  
KJR-120C  
KJR-27B

### Centralized Controller & Monitor

CCM30  
MD-CCM03  
MD-CCM09  
KJR-90B  
MD-CCM02

### Network Control Software & Gateways

IMM Software & M-Interface  
Data Converter CCM15  
KNX Gateway MD-KNX  
BACnet Gateway CCM08  
LonWorks Gateway LonGW64  
Modbus Gateway CCM-18A

### Accessories

Hotel Key Card Interface Module MD-NIM05  
Infrared Sensor Controller MD-NIM09  
3-Phase Protector  
Digital Power Ammeter  
Indoor Unit Group Controller-KJR-150A  
Remote Alarm Controller KJR-32B  
Network Electricity Distribution Module MD-NIM10  
AHU Control Box  
Midea Outdoor Unit Diagnosis

## Wireless Remote Controller



### Auto Mode >>

Auto mode is specially designed for V4+R system. Can automatically switch between cooling and heating mode based on the temperature difference between the indoor temperature and set temperature.

\* Runs cooling mode only for the 2-pipe system.

### Background Light >>

The background light allows users to operate the device in a dark room. The device lights up when a button is pressed, and turns off when a given operation is completed.

### Address Setting >>

In addition to the machine's auto addressing function, users can set the indoor unit's address on the wireless remote controller RM05/RM02.



### Follow Me >>

With the follow me function, the temperature sensor built-in to the remote controller automatically adjusts temperature and sends it to the indoor unit, making the room more comfortable.

\*The Follow Me function is available in RM02.



## Benefits

Model name	RM02	RM05
Mode change	●	●
Temp. setting	●	●
Fan speed control	●	●
Keyboard lock	●	●
Eco operation	●	●
Swing function	●	●
Air direction	●	●
24h timer	●	●
Clock display	—	●
Address setting	●	●
Follow me function	●	—
26°C shortcut setting	●	—
Background light	●	●

Notes:

- The ECO function needs to match with the corresponding indoor units.
- : available — : unavailable

## Specifications

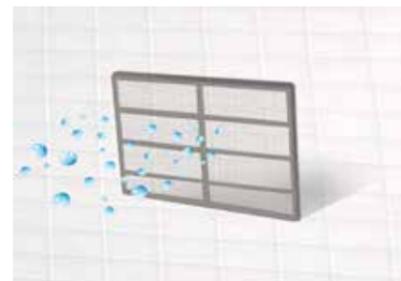
Model	RM02	RM05
Dimensions (HxWxD)(mm)	150x60x15	150x65x20
Power (V)		1.5V(LR03/AAA)X2

## Wired Controller



### Clean Filter Reminder >>

The wired controller records the total running time of the indoor unit. When the accumulated running time reaches the pre-set value, the system will remind users to clean the indoor unit's filter. Cleaning the filter regularly keep indoor air fresh, clean and good for your health.



### Silent Mode >>

In cooling, heating and auto mode, operating silent mode can lower running noise by setting the fan speed to low for a quieter environment.

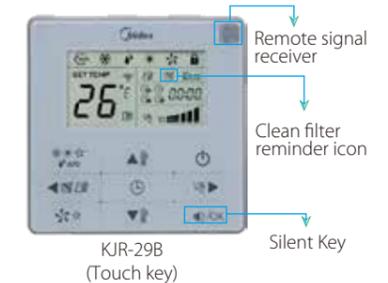


### Keyboard Locking >>

The locking function can be used to prevent other people from using the controller.

### Remote Signal Receiving Function >>

KJR-29B and KJR-90C provide a signal receiver for the remote controller. Signals from the remote control can be received by a wired controller, then sent to the indoor unit for easy control.



### Address Setting >>

KJR-29 and KJR-90C have an address setting function. Service personnel can set the address for the indoor unit for easy installation and future maintenance.



### Follow Me >>

The temperature sensor built-in to the wired controller senses the surrounding temperature and adjusts the room temperature for perfect comfort.

\*The Follow Me function is available in KJR-29B and KJR-90C.



### One-key 26°C >>

KJR-86C has a one-key 26°C function. For saving energy and remaining comfortable, 26°C is the ideal temperature.

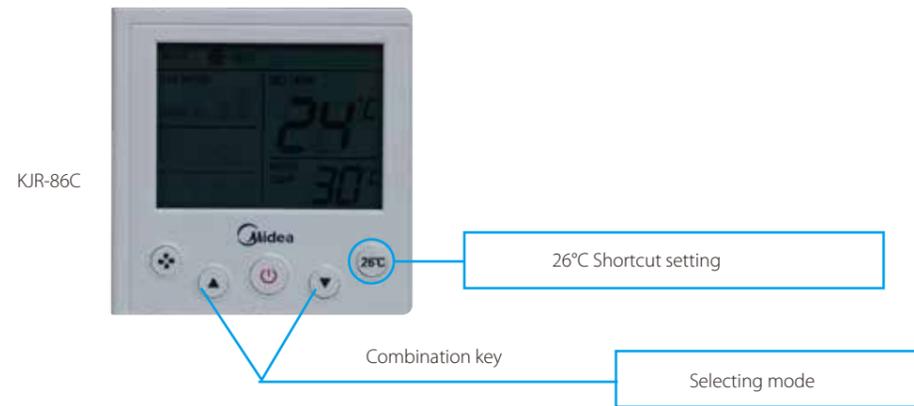


## User Friendly Design >>

KJR-86C is a hidden mode controller specially designed for hotels, hospitals, schools and other similar types of buildings.

Hidden mode key controller:

Press the temperature buttons "▲" and "▼" simultaneously for 3 seconds to select the operation mode: COOL or HEAT.



## User Friendly Installation >>

The background light function makes it easy to use in the dark. As small as an electric switch, the installation effect more attractive.



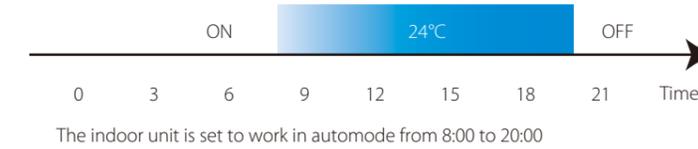
## Auto Restart Function >>

If the power fails, the system records running parameters such as: ON/OFF state, mode, Fan speed, Temperature, Swing and Locking status. When powered on again, the system automatically checks the status before the failure.



## Built-in Timer >>

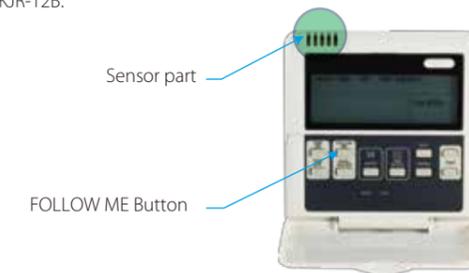
The built-in daily timer offers automatically starts and stops the system at set times based on user needs.



## Follow Me >>

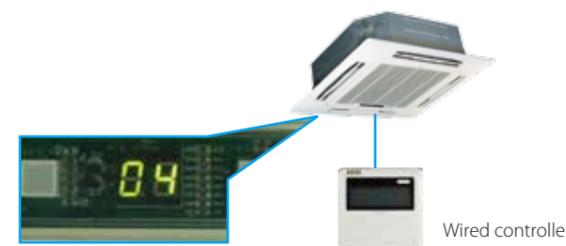
The FOLLOW ME function enables the wired controller to detect the air temperature at the user's height instead of the ceiling or floor for accurate temperature configuration.

\*The Follow Me function is available in KJR-12B.



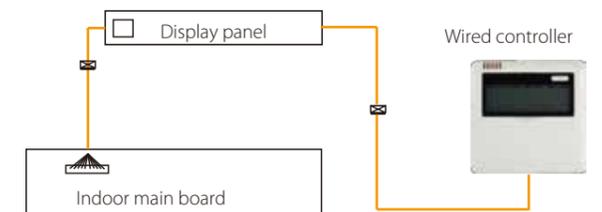
## Addresses Setting >>

The address setting function is coupled with easy installation and simple future maintenance. Service personnel can set the address for the indoor unit using KJR-10B, KJR-29B and KJR-90C.



## Easy Connection >>

The wired controller conveniently connects to the indoor unit's display panel via connecting wire.



## V4 Plus R Wired Controller



### Auto Mode >>

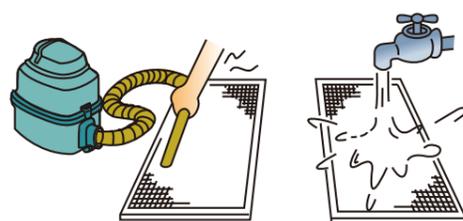
Auto mode is specially designed for the V4 plus R series. In auto mode, the V4 plus R system can automatically switch between COOL or HEAT mode according to the temperature difference between Tf (indoor temperature) and Ts (setting temperature).  
\* KJR-120B is compatible with the 2-pipe system. In auto mode, it only can run in cooling mode.

### Error Display >>

If a malfunction occurs, the temperature setting display area will show the error code. The error status can be checked easily on the indoor unit's wired controller.

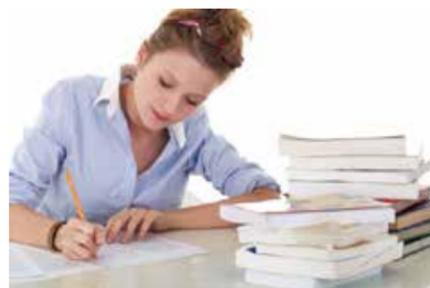
### Filter Cleaning Reminder >>

The wired controller records the total running time of the indoor unit. When the accumulated running time reaches the pre-set value, it will remind you to clean the air filter. Cleaning the filter regularly keeps the indoor air fresh and clean, and is good for your health.



### Silent Mode >>

In cooling, heating, and auto mode, silent mode reduces the running noise by setting the fan speed to low so you can enjoy peace and quiet while remaining comfortable.



## Weekly Schedule Timer Wired Controller



### Simple Design >>

Weekly schedule wired controller can query the indoor temperature and the set parameters of the weekly schedule. It can show the error codes and running state of the indoor unit. The LCD backlight enables users to operate the device in the dark.

### Weekly Schedule Timer >>

The weekly schedule timer function allows users to set up to four scheduled periods per day for frequent adjustments. The Schedule feature allows you to program device behavior. If a device must follow a certain schedule, you can program the device to operate only at the scheduled times. Scheduled devices do not activate unless programmed to do so. They are centrally managed, significantly reducing energy consumption.

### Delay Function >>

This function is specifically designed for people who work overtime. Pressing the Delay button postpones system shutdown by 1 or 2 hours.

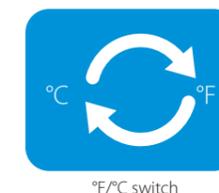
### Error Display >>

If a malfunction occurs, the temperature setting display area will show the error code. The error status can be checked easily on the indoor unit's wired controller.



### °F/°C Switch >>

Press the left-right and up-down buttons simultaneously for three seconds to switch between °F and °C.



°F/°C switch

## HRV Wired Controller



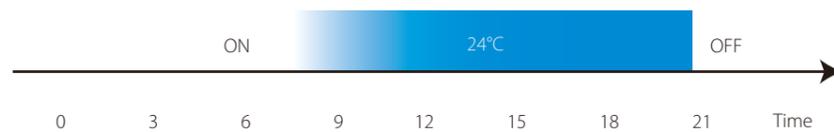
KJR-27B is individually designed for HRV—Heat Recovery Ventilator. The HRV can work in the following modes: exhaust, air supply, bypass, heat exchange, and auto.

### Built-in Timer >>

Built-in daily timer offers the convenience of automatically starting and stopping the HRV at the times set

Setup screen example

Set to Wednesday: 8:00 to 20:00



### Specifications

Model	KJR-29B	KJR-90C	KJR-86C	KJR-10B	KJR-12B	KJR-27B	KJR-120B	KJR-120C
Dimensions (HxWxD)(mm)	120x120x20	86x86x16.5	86x86x18	120x120x15	120x120x15	120x120x15	120x120x20	120x120x20
Power (V)	DC 5V (Supplied by indoor unit)						DC 12V by IDU	

## Benefits

Model name							
	KJR-10B	KJR-12B	KJR-29B	KJR-90C	KJR-86C	KJR-120B	KJR-120C
Fan speed control	●	●	●	●	●	●	●
Mode change	●	●	●	●	●	●	●
Auto mode for V4+R	—	—	—	—	—	●	—
Eco mode	●	●	—	—	—	—	—
Keyboard lock	●	●	●	●	—	●	●
Swing function	●	●	●	●	—	●	●
Background-light	—	●	●	●	●	●	●
24h timer	●	●	●	●	—	●	●
Clock display	●	—	●	●	—	●	●
Address setting	●	—	●	●	—	—	—
Receiving remote signal	—	—	●	●	—	—	—
Clean filter reminder	—	—	●	●	—	●	—
Follow me function	—	●	●	●	—	—	—
Silent mode	—	—	●	●	●	●	—
26°C shortcut setting	—	—	—	—	●	—	—
Display indoor temp.	—	—	—	—	●	—	—
°F/°C initial setting	●	—	●	●	—	●	●
Weekly schedule timer	—	—	—	—	—	—	●
Delay function	—	—	—	—	—	—	●
Auto restart	●	●	●	●	●	●	●
Error code display	—	—	—	—	—	●	●

Notes:

1. ECO function needs to match with the corresponding indoor units.

2. ● : available — : unavailable

# Centralized Controller & Monitor



## Indoor Centralized Controller

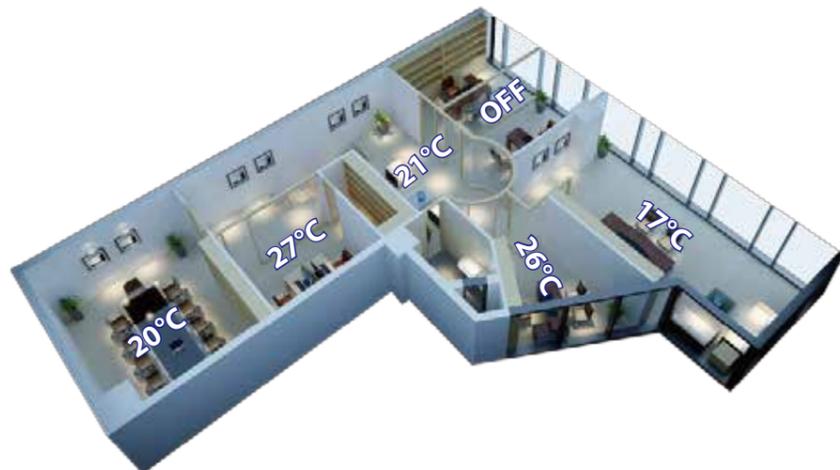


CCM30  
MD-CCM03  
MD-CCM09

- Swing
- Heat mode
- Cool mode
- Fan mode
- 24h Timer
- Keyboard lock
- Remote controller lock
- Cooling lock
- Heating lock
- Dry mode
- Weekly schedule
- Clean filter reminder
- Network access

## Centralized Control >>

The centralized controller is a multifunctional device that can control up to 64 indoor units within a maximum connection length of 1,200m. User can group control or individual control and the set temperature of each unit can also differ.



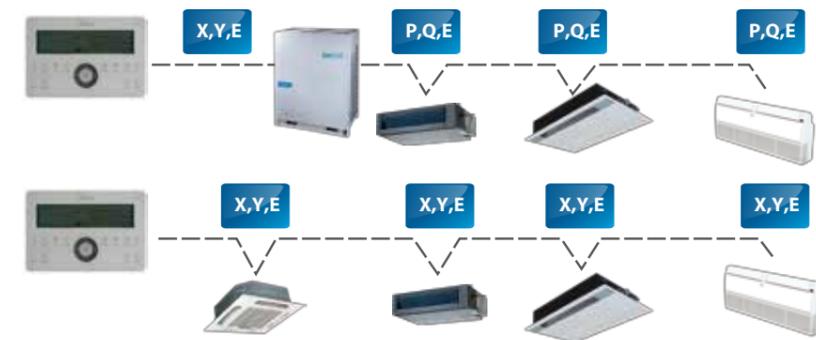
## Three Lock Modes >>

The centralized controller is a better way to manage indoor units. Users can choose to lock the wireless controller, running mode, or the centralized controller's keyboard.



## Wiring Example >>

The device connects to the master outdoor units of Midea's newly designed products to simplify and centralize the wiring configuration. The two connection methods are as follows:



\*1. If it connects to XYE ports of master ODU, the ODU must be set to auto addressing mode.  
\*2. Some products can only be connected with MD-CCM09 from indoor side XYE ports.

## Application Example >>

Ensure the address is not repeated. Units can be from different systems, with up to 64 indoor units. This greatly reduces system limitations.

\*1. For the 2-pipe system, the running mode should be in the same mode.  
\*2. For 3-pipe system, the running mode can be set as required.



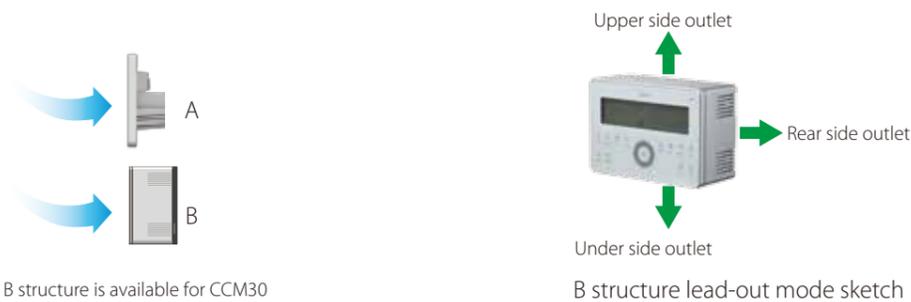
### Air Filter Cleaning Reminding Function >>

CCM30 is a new design and touch key controller. The reminder to clear the filter is only available on the touch-key central controller CCM30. The "FL" icon indicates that the air filter in a given indoor unit needs cleaning.



### Easy Installation >>

The centralized controller offers two installation modes. Unlike the B structure, the A structure must be embedded into the wall. Both are easy to operate.



\*A and B structure is available for CCM30

### Stylish Design >>

CCM's stylish design suits high-end environments. The keyboard lock function is used to prevent operating mistakes.



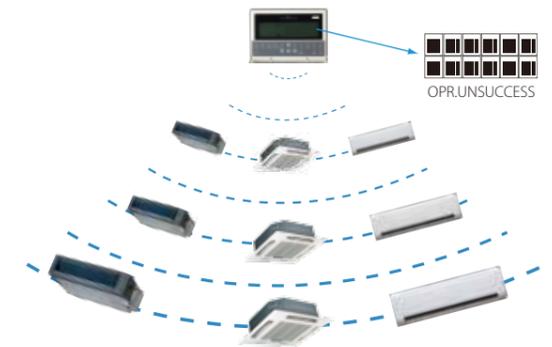
### Weekly Schedule for MD-CCM09 >>

MD-CCM09 is a weekly centralized controller. It can control 64 indoor units in a weekly schedule. Users can set up to four periods per day, and select the desired running mode and room temperature. The operating object can be a single indoor unit or all the indoor units.

	8:00	16:00	23:59
Sun	28°C	22°C	24°C
Mon	26°C	22°C	23°C
Tue	26°C	22°C	23°C
Wed	26°C	22°C	23°C
Thu	26°C	22°C	26°C
Fri	26°C	22°C	26°C
Sat	28°C	off	24°C

### Single/Unified Control Mode >>

The control object can either be a single unit or all units, which vastly simplifies the control process. Operation signal feedback ensures that all units are working in the correct mode.



### Indoor Unit Working Status Display >>

Displays indoor units' working status and error codes, so users can easily identify faults by checking the error code table in the user's manual before contacting a service engineer.

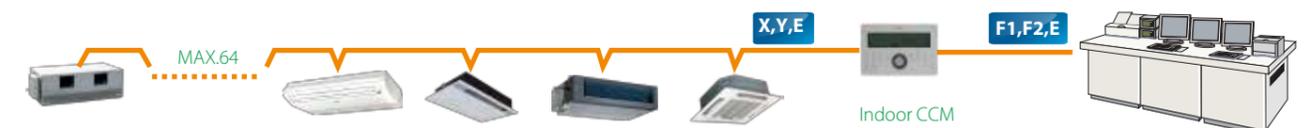
Error code or protection code

Connecting status matrix

Current	Set. temp	Mode	Auto	Query Set Opr. unsuccess															
88#	88°C	ALL	Auto	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Online	Protect Error	ON	OFF	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
T2A T2B T3	Period	Room. temp		32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
1 2 3 4	ON OFF	88:80		48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Week Sun Mon Tue Wed Thu Fri Sat				Weekly Timer Off															
88 Year	18 Mon	28 Day	28:88																

### Access to Network Monitoring >>

The centralized controller can connect up to 64 indoor units on the network monitoring and building management systems.



\*If it connects to XYE ports of master ODU, the ODU must be set to auto addressing mode.

Network access is only available for CCM03 and CCM30

## Benefits

Model	 CCM30	 MD-CCM03	 MD-CCM09
Max. number of indoor units	64	64	64
Group control	●	●	●
Individual control	●	●	●
Fan speed control	●	●	●
Mode selection	●	●	●
Mode lock	●	●	●
Remote controller lock	●	●	●
Keyboard lock	●	●	●
Weekly schedule timer	—	—	●
24h timer	●	●	●
Error check	●	●	●
Emergency start	●	●	●
Emergency stop	●	●	●
Background light	●	●	●
Swing function	●	●	●
Air filter cleaning reminder	●	—	—
Parameter query	●	●	●
BMS access	●	●	—

Notes:

● : available — : unavailable

## Specifications

Model	MD-CCM03	CCM30	MD-CCM09
Dimensions (H*W*D)(mm)	179x119x74	180x122x78 and 180x122x68	179x119x74
Power (V)	198-242V(50/60Hz)		

## Unified On/Off Controller

Stylish unified controller design with a clear panel.  
Can control single or group indoor units.



KJR-90B

### Unified Control >>

KJR-90B offers on/off and heating/cooling functions for indoor units based on preset temperatures to ensure easy management.



### Centralized Control >>

KJR-90B can be used to centrally control up to 16 indoor units.



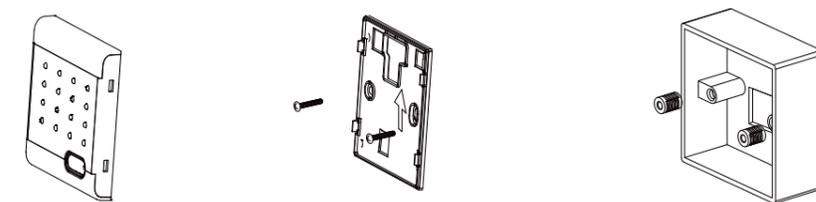
### Light Indicator >>

The LEDs on KJR-90B indicate indoor units' running status for easy fault detection. The lights switch off automatically to save energy once an action is completed. The indicators are as follows:

Light	Blue	Red	Flash
Single On/Off key	Cooling/Fan	Heating	IDU Error
Unified On/Off key			EEPROM Error

### Easy Installation >>

KJR-90B can be easily mounted on the built-in cabinet:



## Specifications

Model	KJR-90B
Dimensions (H*W*D)(mm)	90x86x8
Power (V)	DC 5V(Supplied by indoor unit)

## Outdoor Centralized Monitor

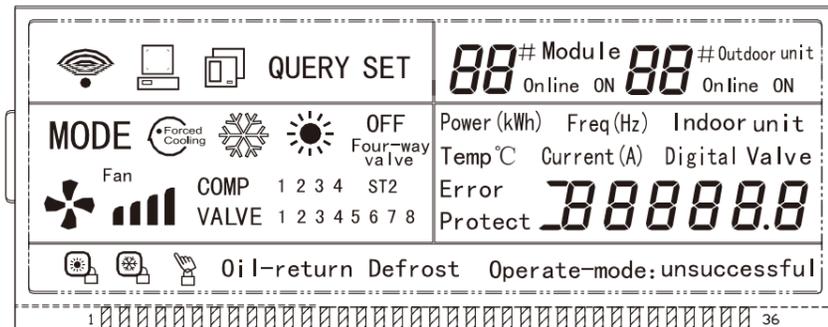
MD-CCM02



- Query parameters
- Power consumption
- Protection/Error codes
- Communication by ODU
- Communication by PC
- Forced Cooling

### ODU Parameters Display >>

MD-CCM02 enables users to easily check outdoor units' running status, including frequency, temperature, current, pressure, protection codes and error codes.



Graph 2 LCD Screen

### Access to Network Monitoring >>

MD-CCM02 can connect up to 8 refrigerant systems and 32 outdoor units to the network system.



## Specifications

Model	MD-CCM02
Dimensions(HxWxD)(mm)	120x120x15
Power (V)	198-242V(50/60Hz)

## Network Control Software & Gateways



# Network Control Software & Gateways



## IMM(Intelligent Manager of Midea) 4th Generation Network Control System



IMM software



M-interface Gateway

Intelligent Manager of Midea is designed specifically to control VRF systems. Based on a centralized format, it controls and monitors all the system's functions. It can be used as a flexible multi-purpose system and applied to meet various requirements according to the scale, purpose, and control method of each building.

### Key Features >>

- ❖ Up to 4 M-interface gateways, 64 refrigerant systems, 1,024 indoor units, and 256 outdoor units can be controlled by one PC.
- ❖ User friendly operation
- ❖ Web access for M-interface gateway
- ❖ Central building monitoring and control
- ❖ Energy saving management
- ❖ Zone management
- ❖ Warning message
- ❖ \*SMS modem(optional)
- ❖ Electricity charge distribution
- ❖ Annual schedule management
- ❖ Low-load operation indicator
- ❖ Generate operational history reports (daily, weekly)
- ❖ Fault display & Warning message
- ❖ Clean filter reminder
- ❖ Emergency stop and Alarm signal output
- ❖ Multiple languages



Web Access function



Energy Saving Management



Schedule management



Visual Navigation



Warning Message



Data Backup

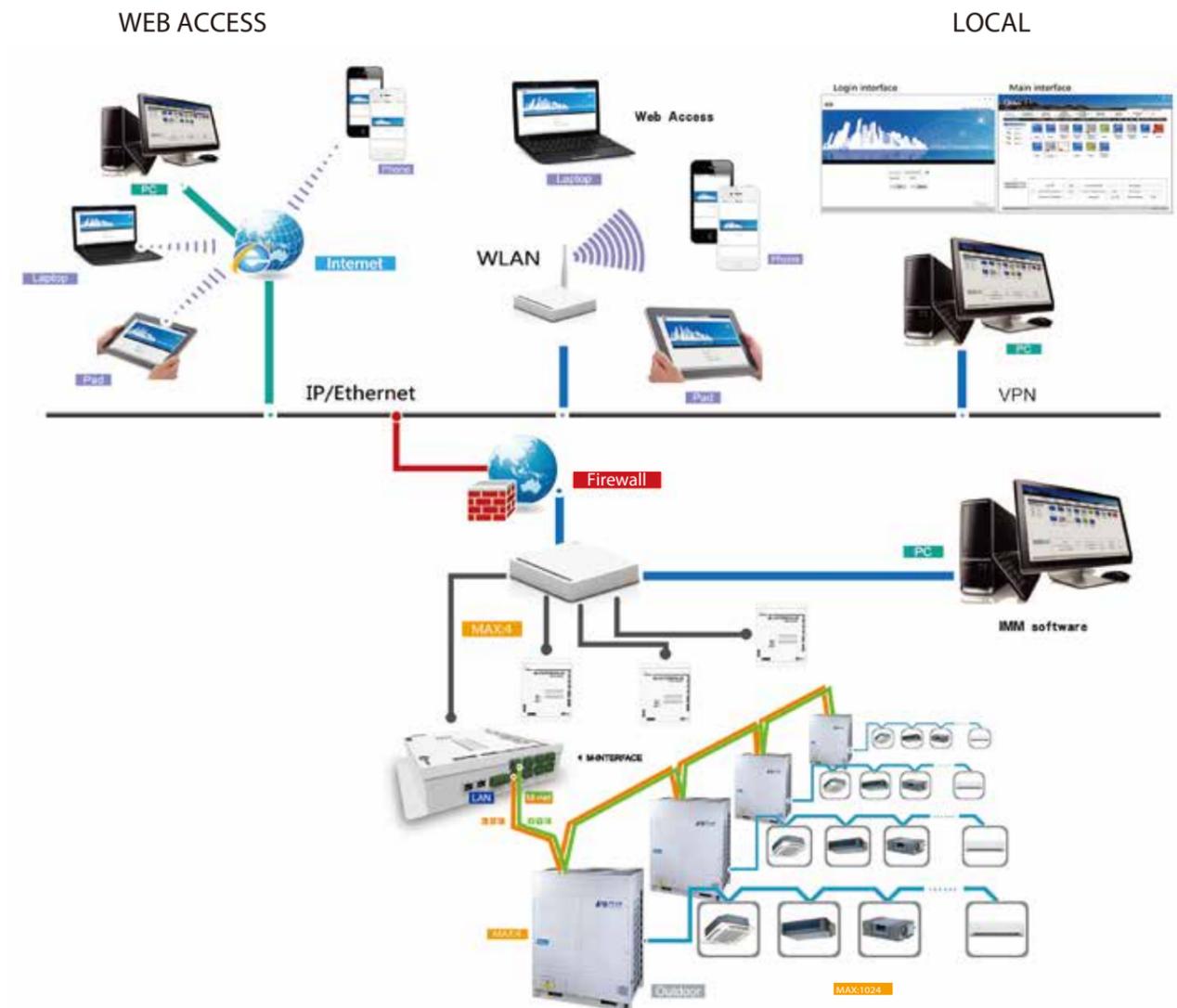


Multiple Languages



Electricity Charge Distribution

### Network Control Application >>

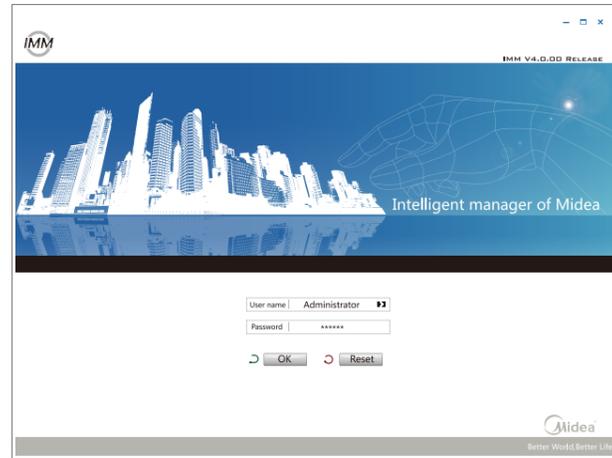


- ❖ Can run on Window 7\_32/64 bit, Window XP\_32 bit and Window 8.
- ❖ Can monitor and control A/C anytime, anywhere by PC, iPhone, iPad and notebook computer.
- ❖ Support WEB access: IE, Firefox, Safari and Chrome.
- ❖ Enables remote access through DSL, VPNs and so on.

## Simple Operation & Management >>

- ❖ Click & Operate, a user-friendly interface allows non-experts to easily run the building management system.
- ❖ IMM offers a massive, flexible, and highly efficient centralized management program.

Login interface



Main interface



## Visual Navigation >>

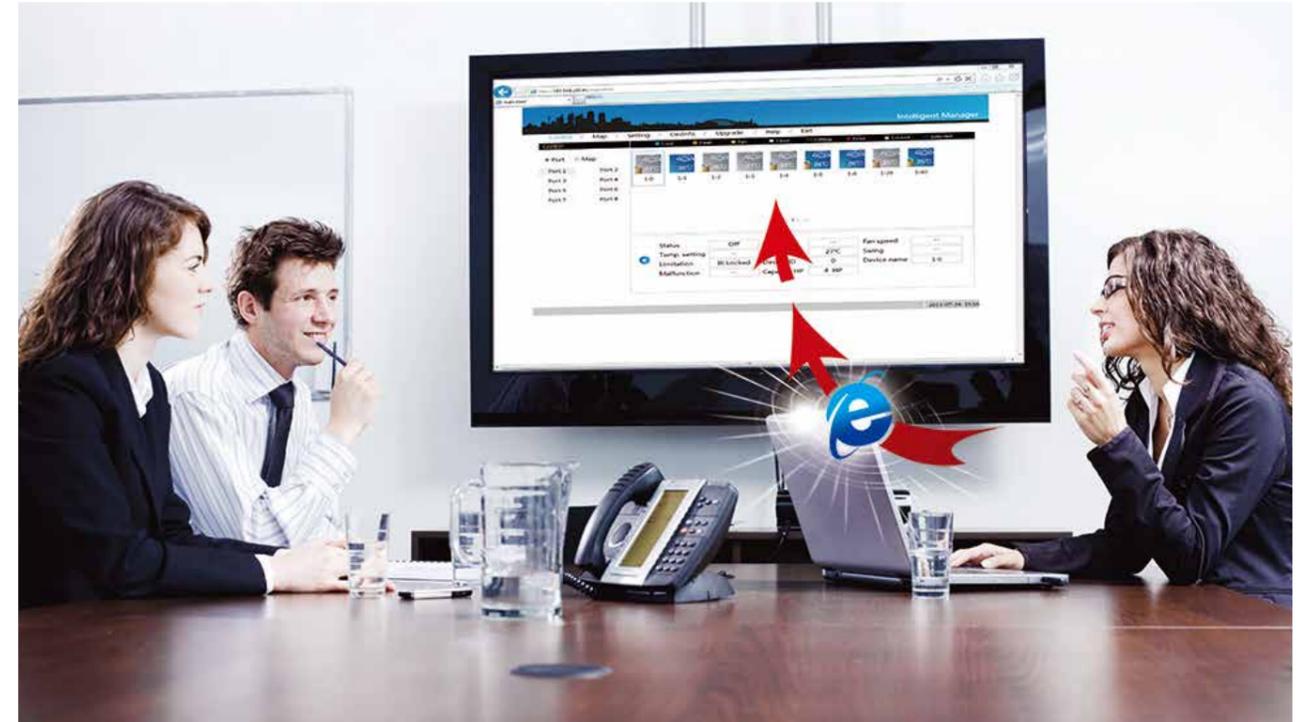
Allows the floor plan to be imported. Dragging the A/C device to anywhere can locate the A/C quickly, and you can view it to specify the physical location of the A/C. With the visual navigation function, the layout of A/C is showed on the floor plan directly and the running solution is clear.



## Web Access Function >>

With the web access function, a PC, laptop or a smart phone can be used as a remote controller. The function supports up to four users online at the same time. Connects with LAN and WAN so you can monitor and manage the A/C device remotely.

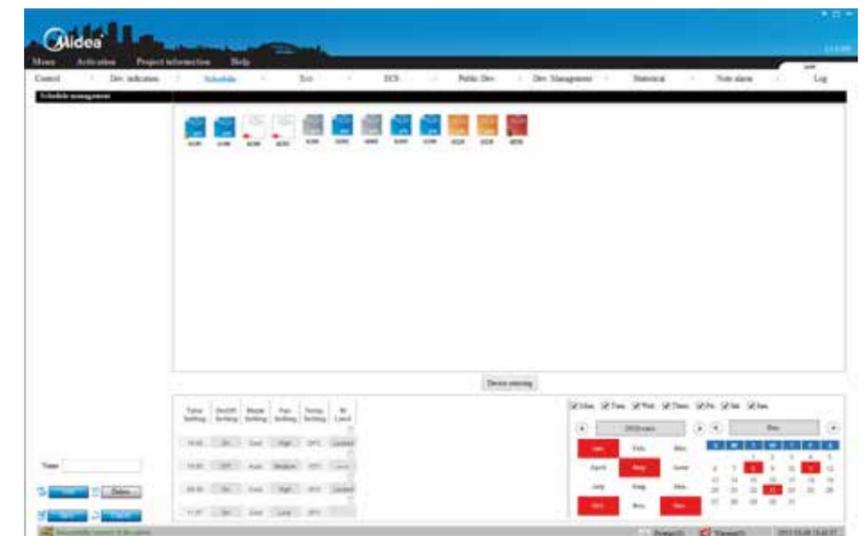
\*WAN access needs to set up the VPN.



## Schedule Management >>

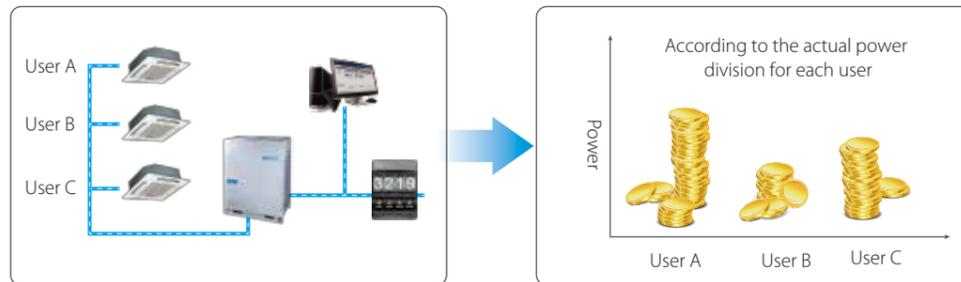
Automatically performs facility start/stop control, switches the operating mode, sets temperatures and enables/disables the remote control according to the present time schedule.

- ◆ Users can set up day/week task for running periodically.
- ◆ Users can choose indoor units and assign task times as required.
- ◆ Except for the conventional setup, the system offers all kinds of energy conservation options.



## Electricity Charge Distribution (Patented) >>

- ❖ Provides information on proportional electrical power distribution to optimize electricity consumption management.
- ❖ Uses software to calculate electric power proportional distribution. The software also outputs and saves electricity consumption data for each indoor unit (or group) connected to the intelligent manager.
- ❖ Applies the patented Midea Calculation Method to calculate consumption rates according to the capacity demand based on various parameters: temperature setting, room temperature, running mode, rated HP, public areas, unused rooms, and nighttime use. It outputs this information on a charge calculation sheet to evenly divide power consumption charges among tenants.
- ❖ Electricity charges can be easily divided when billing users for air conditioning power charges; for example, for tenants in a commercial building, offices in a rented building or rooms in a hotel.



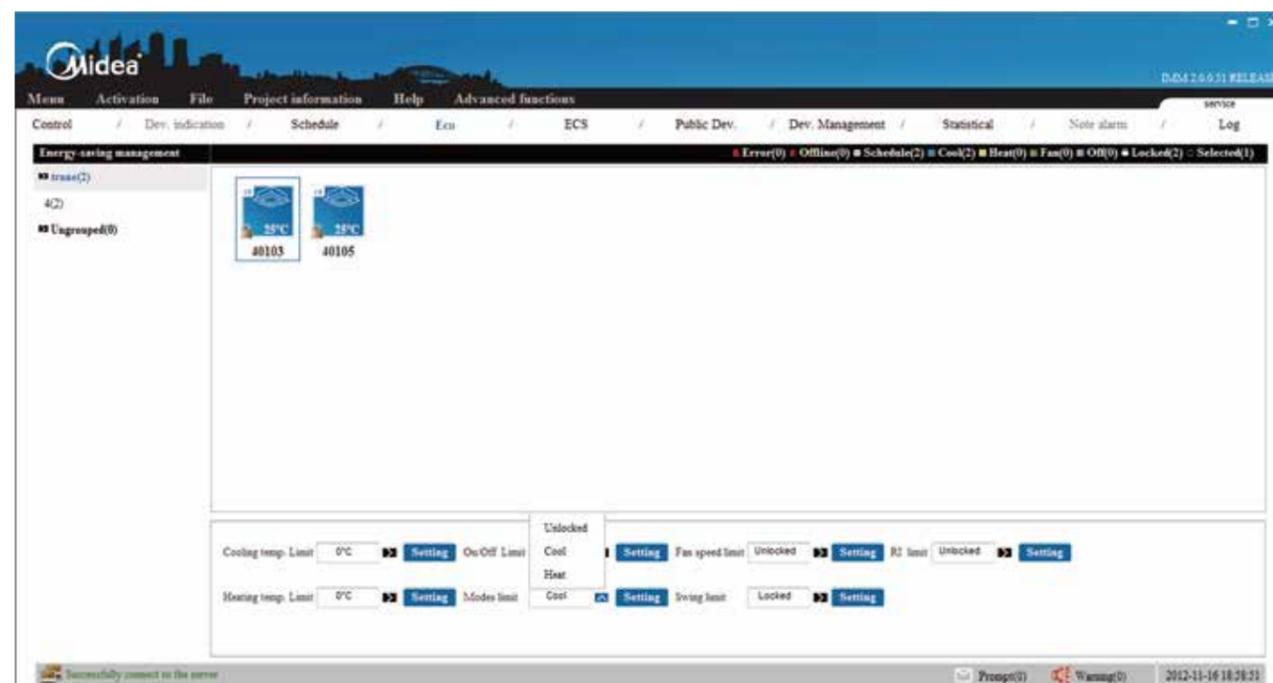
Energy consumption can be divided according to the running time, set temp, return air temp, and refrigerant flow.

## Energy Saving Management >>

Based on a predetermined schedule, the Intelligent Manager executes capacity control and intermittent operations on all air conditioning units to maintain a high comfort index.

User can set a limit on any running unit, any parameter, such as cooling temp., heating temp., fan speed, operation mode, and so on.

- \* 1. Meet with the <Public building energy efficiency management regulations>.
- 2. Matches the corresponding indoor units.



## Automatic & Manual Topology >>

With automatic topology mode and manual topology mode.



Can topologize automatically between the indoor and outdoor units in the refrigerant system.  
One M-interface gateway can support, up to 4 refrigerant systems, 256 indoor units and 16 outdoor units.



Manually set the topologize method between the indoor and outdoor units in the refrigerant system.  
One M-interface gateway can support, up to 16 refrigerant systems, 256 indoor units and 64 outdoor units.

## Warning Message >>

The system can receive error messages from air conditioning units in more than one building on public phone lines. If a particular factor influences normal operations, the system will send a message to technicians as an early warning.

\*Requires the Midea "SMS Modem" to send automatic warning messages to designated phone numbers.

## Data Management >>

Monitors the operating information of individual indoor units to distribute the power consumption of outdoor units.

Stores operation data on multiple systems and reports it in excel format for visual management.

Uses IMM software to generate tenant reports and help building owners bill for energy use.

## Zone Management >>

Easy to control and manage air conditioners.

Easy to manage the energy charges of public devices.

## Data Backup >>

Double data backup stored on the M-interface and IMM database.

The M-interface gateway automatically backs up power data for 1 or 2 months if a system failure occurs.

Examples: if there is a PC power failure or a system crash, the M-interface will automatically backup the data to the gateway.

IMM software also stores running data on the software database.

## Colorful Language Obtained >>

Supports multiple languages. Customers can select their required language.

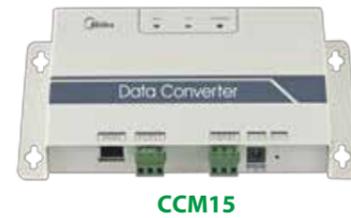
9 different languages:



## Data Converter

The cloud server controller enables remote control on the VRF system through the Internet.

Smart phones, tablets, laptops, and desktop PCs can serve as a web controller for up to 64 indoor units.



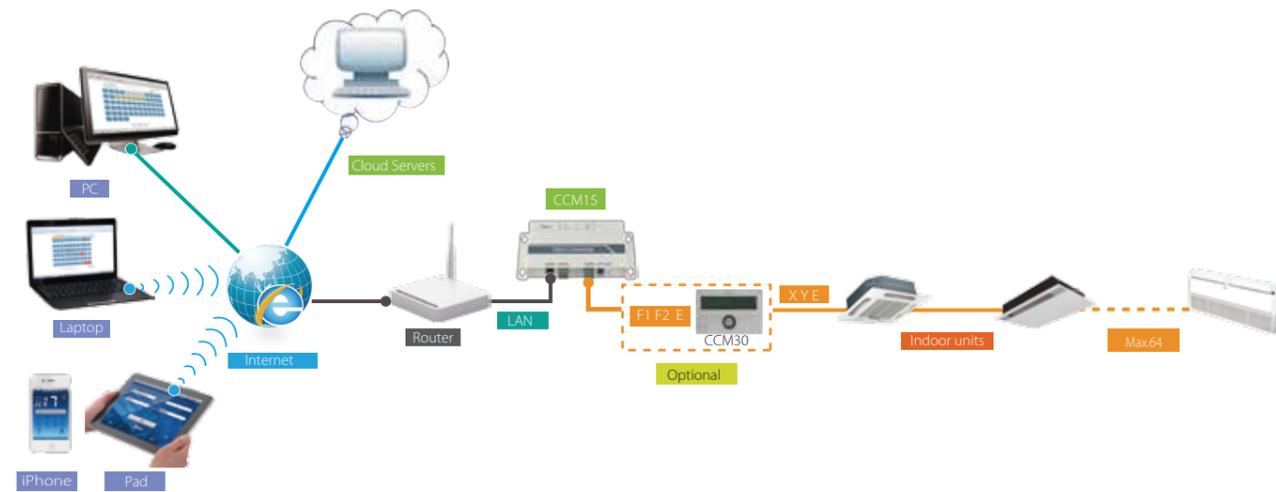
### Network Example >>

Can directly connect to the XYE port of indoor/outdoor units.

Can connect up to 64 indoor units.

CCM03/CCM30 is optional, and can be connected with CCM15 through F1F2E ports.

The system comprises an A/C system, data converter CCM15, router, cloud server and control terminal.



\*If it connects to the XYE ports of the master ODU, the ODU must be set to auto addressing mode.

### Simply Control Interface >>

Software control/ Cloud server control (WEB access).

Click & Operate: the user-friendly interface.

Allows single and group control.

Simplified user control interface.

Color indication and icons makes it easy to recognize unit status.

Includes a full-screen display, and allows temperature adjustment by swiping.



### Weekly Schedule Control >>

Weekly schedule for iPad and Web function.

Multiple sections in each day for a single unit or group.

Automatically performs facility start/stop control, operating mode, and temperature according to the set time schedule.



### Cloud Server Web >>

Query and control a single unit or group.

Weekly schedule setting: can set multiple sections in each day for a single unit or group.

Group user control: you can use the same ID to manage hundreds of CCM15 when you select the As group user button on the login page.

Historical errors: easy service and management with a history error function.

### Intelligent Control >>

The air conditioner can be remote controlled by a phone or tablet.

Query and control the running state of the A/C anytime, anywhere, and schedule queries and actions in advance.

Remotely turn off the air conditioner to avoid wasting power.



**Modbus® Gateway**

**LonWorks® Gateway**

**BACnet® Gateway**

**KNX Gateway**

**BMS**

## What is the BMS? >>

The Building Management System (BMS) (or Building Automation System (BAS)) is a computer-based control system installed in buildings. The BMS monitors the mechanical and electrical equipment such as ventilation, lighting, power, fire, and security. There are four types of common BMS protocols: BACnet, LonWorks, Modbus and KNX.



MD-KNX

## KNX Gateway

Specially designed to allow monitoring and bidirectional control on the parameters and functionality of the Midea air conditioner from KNX installations

### What Is The KNX? >>

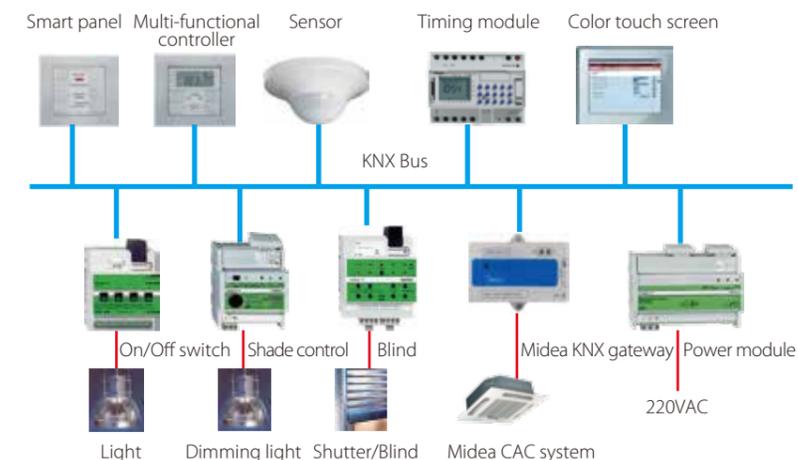
KNX (Konnex) starts from 1999. KNX is the only global standard for housing and building control, and has been adopted by 70% of Europe's smart home market.

### Key Features >>

- ❖ Compatible with all Midea VRF products
- ❖ External power is not required and direct connect to the KNX EIB bus
- ❖ Fully KNX interoperable, configuration from ETS
- ❖ Multiple objects for control (different types: bit, byte, characters...)
- ❖ Easy installation and directly connects with one indoor unit through the RS485 bus
- ❖ Directly connects to the KNX bus
- ❖ KNX certification

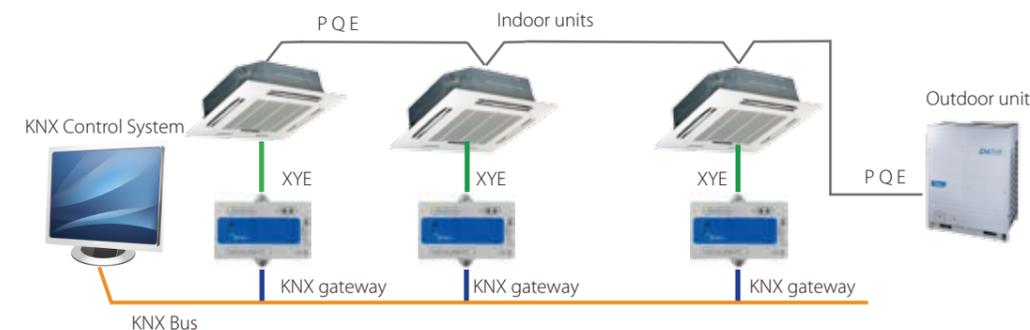
### Widely Applied >>

Midea KNX protocol gateway can be combined with hundreds of KNX certified products labeled with the KNX trademark in the same working system.



### Electrical Wiring >>

One gateway only can be connected to one indoor unit.  
Can only connect to the XYE port of the indoor unit.





MD-CCM08

## BACnet® Gateway

Integrated Control System for Seamless Connection between VRF and BMS Systems

### What is the BACnet? >>

BACnet is a communications protocol for building automated control networks. BACnet was designed to allow building automation and control systems for applications to communicate; e.g., heating, ventilation, air conditioning control, lighting control, access control, and fire detection systems and their associated equipment.

### Key Features >>

- ❖ Precise and efficient monitoring and control of the Midea VRF system
- ❖ Connect up to 256 indoor units or 128 outdoor units to the BMS
- ❖ Choose whether or not to connect to the BMS
- ❖ Built-in WEB function
- ❖ BTL certification

#### ● Controlling

- Operation mode setting
- Temperature setting
- Fan speed setting
- Swing running for web
- Lock remote controller

#### ● Monitoring

- Operation mode status report
- Set temperature status report
- Fan speed status report
- RC locking status
- Online quantity
- Timer status
- Error status
- Room temperature display

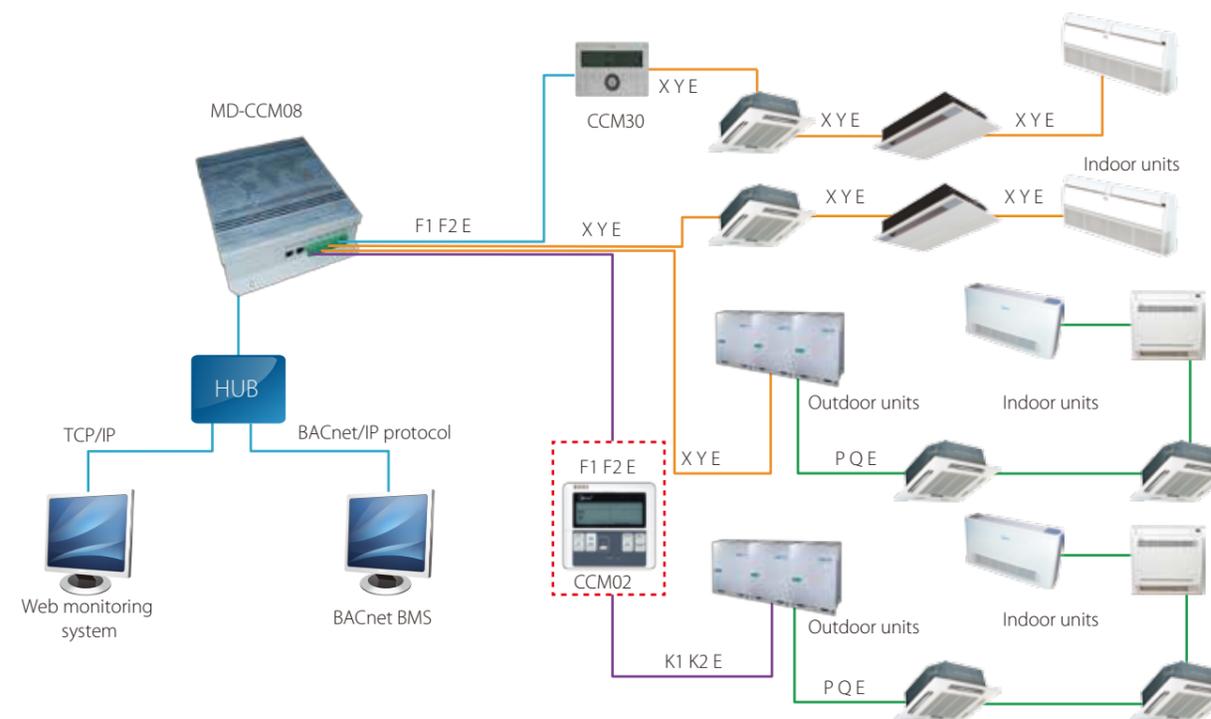
\*For more information, refer to the product object table.

### Monitoring Units Online >>

MD-CCM08 allows users to track units' running status and change their running parameters on Internet Explorer for maximum control convenience.

### Quick & Easy Installation >>

Each port can connect to IDU/ODU XYE ports or outdoor units' K1K2E ports.  
Each port can also connect to one CCM03 or one CCM02 through F1F2E ports.



\*If it connects to XYE ports of the master ODU, the ODU must be set to auto addressing mode.

### Wide Compatibility >>

CCM08 adapts very well to the BMS

	Company	BMS software	Brand
1	SIMENS	APOGEE	
2	TRANE	Tracer Summit	
3	Honeywell	Alerton	
4	Schneider	Andover	
5	Johnson	METASYS	

### Specifications

Model	MD-CCM08
Power supply	AC 220V~50/60Hz
Dimensions (HxWxD)( mm)	319x251x61



LonGW64

## LonWorks® Gateway

Open network integration of VRF Monitoring and control functions into LonWorks networks

### What is the LonWorks? >>

LonWorks (local operating network) is a networking platform specifically created to address the needs of control applications. The platform is built on a protocol created by Echelon Corporation for networking devices over media such as twisted pairs, power lines, fiber optics, and RF.

LonWorks networks are recognized worldwide as the de facto standard within the building control industry. LonWorks is used to automate various functions within buildings; e.g., energy management, fire / life / safety lighting and HVAC.

### Key Features >>

- ❖ Connect to use LonWorks® protocol and Midea air conditioner protocol
- ❖ Compliance with LonMark protocol enables the management and control of A/C system
- ❖ Control various types of equipment from the customer's own PC
- ❖ Connect up to 64 indoor units to the BMS
- ❖ Option for large projects
- ❖ Easy and fast installation

#### ● Controlling

- On/Off command
- Operation mode setting
- Temperature setting
- Fan speed setting

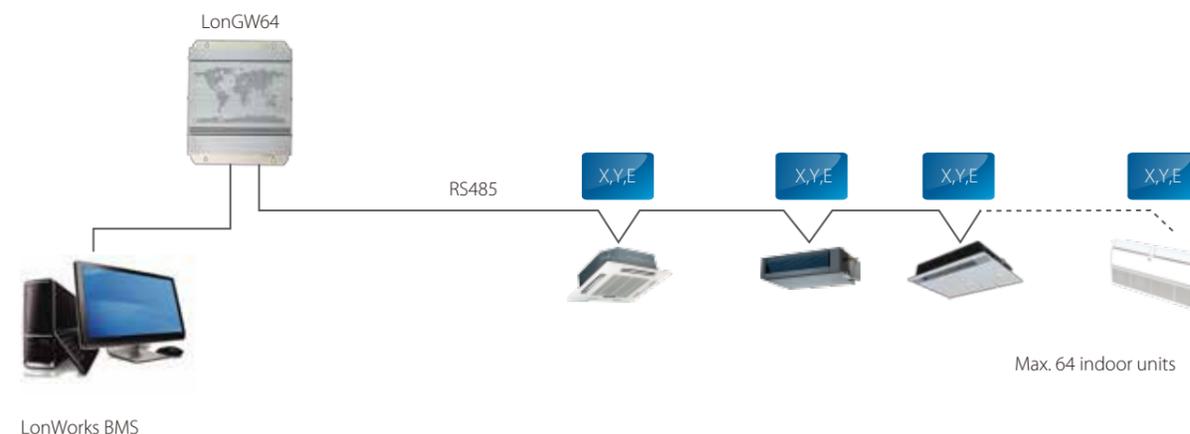
#### ● Monitoring

- Operation mode status report
- Set temperature status report
- Fan speed status report
- Online/offline status
- Online quantity
- Error status
- Room temperature display

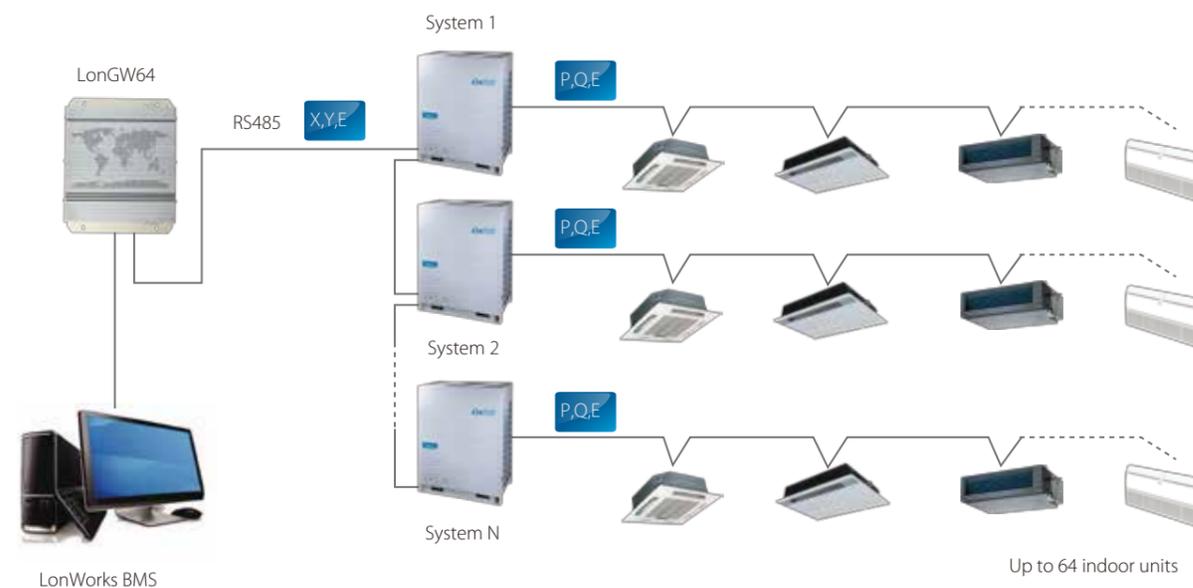
\*For more information, refer to the product network's variable charts.

### Network Example >>

- ❖ Connection method 1: suitable for all air conditioning systems and can connect up to 64 indoor units.



- ❖ Connection method 2: only suitable for the V4 plus system and can connect up to 64 indoor units.



\*If it connects to X,Y,E ports of the master ODU, the ODU must be set to auto addressing mode.

### Specifications

Model	LonGW64/E
Power supply	AC 220V~50/60Hz
Dimensions (HxWxD)( mm)	319x251x61



## Modbus® Gateway

Integrated Control System for Seamless Connection between VRF and BMS Systems

### What is the Modbus? >>

Modbus is a serial communications protocol originally published by Modicon (now Schneider Electric) in 1979 for use with its programmable logic controllers (PLCs). Modbus is often used to connect a supervisory computer with a remote terminal unit (RTU) in supervisory control and data acquisition (SCADA) systems.

### Key Features >>

- ❖ Supports Modbus protocol networks
- ❖ Bridges the Midea central A/C system to the BMS
- ❖ Built-in WEB server function
- ❖ Connect to the BMS system through TCP/IP or RTU
- ❖ Connect up to 16 indoor or 64 indoor units and 4 outdoor units

\*The four outdoor units must be in the same system

#### ● Controlling

- Operation mode setting
- Temperature setting
- Fan speed setting

#### ● Monitoring

- Operation mode status report
- Set temperature status report
- Timer status
- Fan speed status report
- RC locking status
- Online/offline status
- Error status
- Room temperature display

\*For more information, refer to the Modbus product mapping table.

### Config A/C System Via Web >>

When the Modbus network is set, users can conveniently configure their A/C network system online using different TCP/IP browsers.

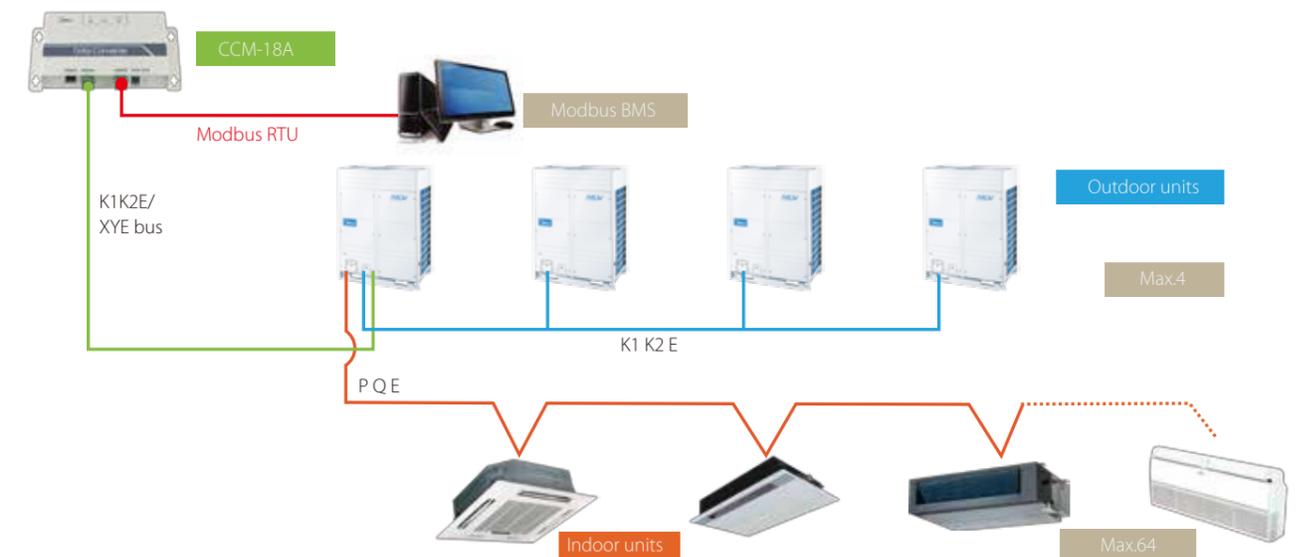


### Network Example >>

1) TCP connection method



2) RTU connection method



\*1. If it connects to XYE ports of the master ODU, the ODU must be set to auto addressing mode.

2. XYE and K1K2E must be connected hand by hand.

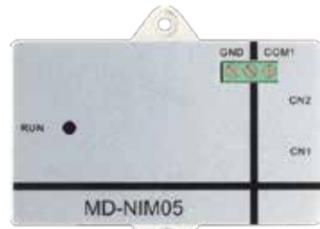
### Specifications

Model	CCM-18A
Dimensions (HxWxD)( mm)	319x251x61
Power supply	AC 220V~50/60Hz

# Accessories



## Hotel Key Card Interface Module



MD-NIM05/E



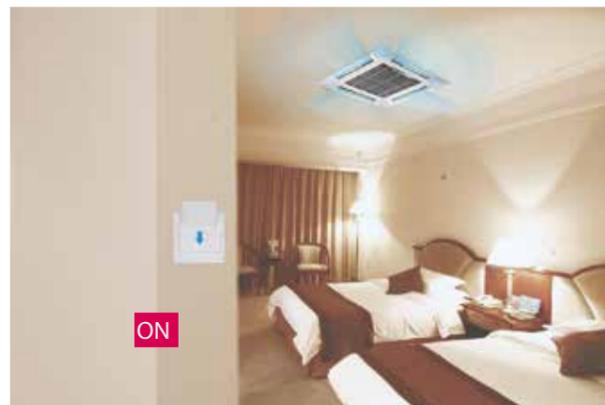
MD-NIM05B/E

### Key Features >>

- ❖ MD-NIM05 is specially designed for hotel guest rooms, restaurants and so on. It works with a hotel card system
- ❖ Simple, compact, and easy to operate; suitable for hotel rooms
- ❖ Key card cooperates with wired controller to control the A/C
- ❖ Eliminates the need for high voltage power, making the device safe and reliable
- ❖ Includes a build-in auto-restart function
- ❖ Remote controller or wired controller can control indoor units
- ❖ Two types are available: MD-NIM05/E and MD-NIM05B/E

### Application Example >>

The unit can be turned on or off when inserting or removing the key card. When the key card is in place, the air conditioner is activated. When the key card is removed, the system can remember the previous setting and stop operation. If the key card is reinserted, the unit enters standby or runs in the same state as the previously. It can stop cooling an unoccupied room to save energy.



### Installation Example >>

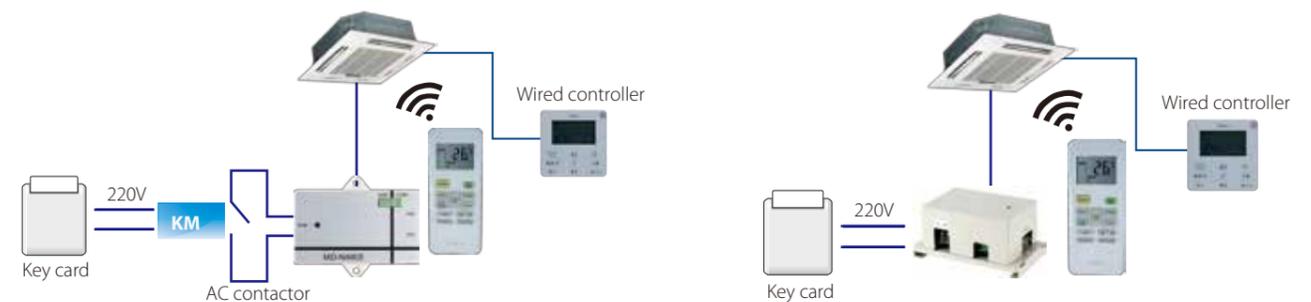
Easy installation and remote controller or wired controller can control indoor units.



### Electrical Wiring >>

For MD-NIM05/E, users need to buy a high voltage relay for installation.

For MD-NIM05B/E, it can be directly connected to the hotel card-insert system (AC 220V) without a high voltage relay.



### Specifications

Model	MD-NIM05/E	MD-NIM05B/E
Dimensions (HxWxD) (mm)	15.5x86x72.8	87x150x70
Power (V)	DC 5V (Supplied by indoor unit)	AC 220V

## Infrared Sensor Controller

Infrared sensors can induct human activities in certain areas. Indoor units will be automatically turned on or off by sensing if the room is unoccupied. It is suitable for hotels, offices, conference rooms, residences, etc.

- ❖ Automatically adjusts the room environment.
- ❖ Automatically extends the shut down time to avoid frequent ON/OFF.
- ❖ Stylish appearance accommodates itself to different buildings.



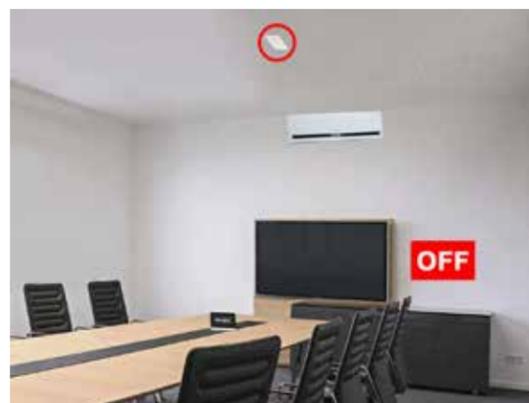
MD-NIM09

### Accurate & Comfortable Sensor >>

It detects motion and automatically starts the air conditioner if motion is detected. This function will save energy since it minimizes unnecessary energy usage by powering off when the area is empty. The infrared sensor can be installed on the ceiling or wall of well-used areas.



Install on the ceiling

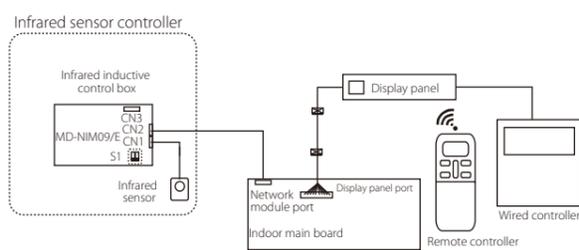


### Installation Example >>



Remote controller or wired controller can control indoor unit.

### Electrical Wiring >>



### Specifications

Model	MD-NIM09
Dimensions (HxWxD)(mm)	Sensor part: 46x30x25.6, Control box: 86x72.8x15.5
Power	DC 5V (Supplied by indoor unit)

## 3-Phase Protector

HWUA/DPB71CM48

Detects power status and takes protective action to stop the compressor from being damaged.

Automatically distinguishes abnormal power supply conditions and automatically recovers.



### Excellent Reliability >>

The protector protects the entire system from power supply problems, and auto restarts after recovery.

### Specifications

Model	With over/under voltage function				Without over/under voltage function
	HWUA	DPA53CM23	HWUA	DPB71CM48	DPA51CM44
Power supply	220~480V-3N 50/60Hz	208~480V-3N 50/60Hz	220~480V-3N 50/60Hz	380~480V-3N 50/60Hz	208~480V-3N 50/60Hz
Temp. range	-20°C~50°C	50Hz: -20°C~60°C 60Hz: -20°C~50°C	-20°C~50°C	-20°C~50°C	50Hz: -20°C~60°C 60Hz: -20°C~50°C
Rated operational power	2.9 VA	7 VA	2.9 VA	13 VA	13 VA
Over voltage	12%	12%	18%	18%	
Under voltage	-12%	-12%	-12%	-12%	/
Phase imbalance	8%	/	8%	8%	
Dimensions(WxHxD)(mm)	90x69x35	81x67.2x17.5	90x69x35	81x67x35	81x67.2x17.5

## Digital Power Ammeter

Calculates power consumption.

Does not need adjusting after long-term use.

Corresponds one outdoor unit to one digital power meter.



DTS634  
DTS636

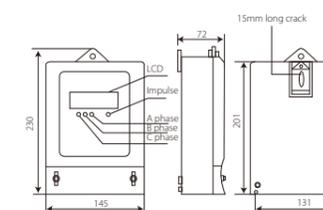
### Low Power Consumption >>

The digital power meter consumes minimal energy.

Voltage circuit: less than 2W/10VA

Current circuit: less than 2.5VA

### Indications & Installation >>



The digital power meter is tested after manufacture so it can be immediately deployed and used on-site. The LED indicators and installation schematic are shown in the figure on the left.

### Specifications

Model	DTS634/DTS636
Dimensions (HxWxD)(mm)	230x145x72
Power (V)	200V-500V(50/60Hz)

## Indoor Unit Group Controller



**KJR-150A**

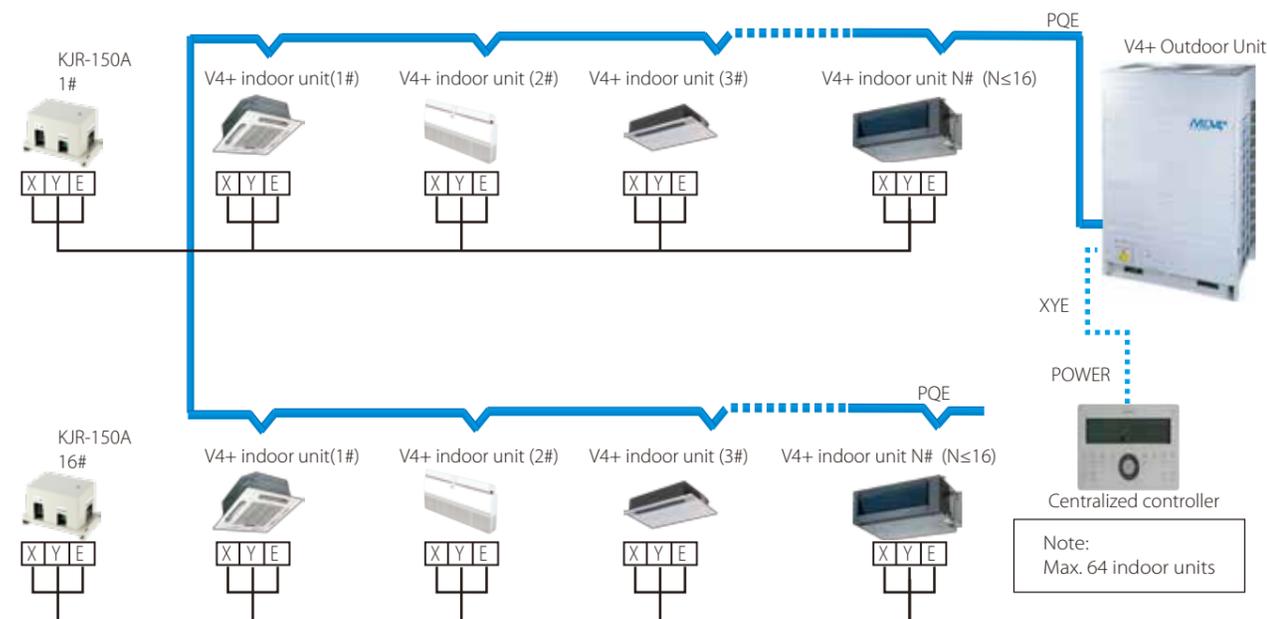
### Simple Design >>

KJR-150A is an indoor group controller designed specifically for V4 plus indoor units.

It can connect up to 16 indoor units through XYE ports.

With a display panel connected to KJR-150A, signals from a wired controller and remote controller can control a group of indoor units simultaneously. All indoor units will run at the same setting parameters. You can also control indoor units separately in each room by remote controller. The indoor units will run as previously set.

### System Wiring Diagram >>



\* If you need to use a centralized controller, you can connect to the XYE from an outdoor unit.

### Specifications

Model	KJR-150A
Dimensions (HXWXD)(mm)	85X150X70
Power (V)	198-242V(50/60Hz)

## Remote Alarm Controller



**KJR-32B**

### Simple Design >>

KJR-32B is specially designed for engineering applications. It does not display the ODU's working parameters. However, it can connect to the alarm device when the ODU is working abnormally, in which case the RUN light will flash.

### Specifications

Model	KJR-32B
Dimensions (HxWxD)(mm)	85X150X70
Power (V)	198-242V(50/60Hz)

## Network Electricity Distribution Module



**MD-NIM10**

### Simple Design >>

- ❖ External contact interface module
- ❖ Designed specifically for Mini VRF
- ❖ Provides the OAE ports for Mini VRF to connect with the IMM network control system, and distributes electricity across the network.

### Wiring Diagram >>

OAE ports: connects to the OAE port of the ammeter.

PQE ports: connects to the PQE port of the outdoor unit.

Each port on M-interface gateway can only be connected with one MD-NIM10 through K1K2E ports.



## AHU Control Box



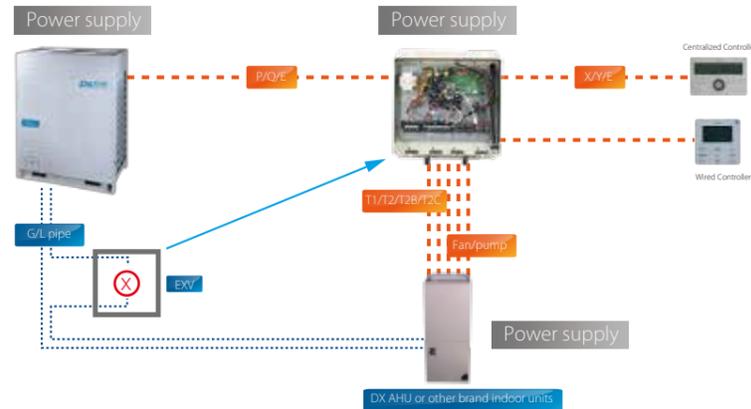
**AHUKZ-01A**  
**AHUKZ-02A**  
**AHUKZ-03A**

**AHUKZ-01B**  
**AHUKZ-02B**  
**AHUKZ-03B**

### Introduction >>

AHU Kit can be used to connect VRF outdoor units with DX AHU or other brand indoor units with AC fan motor. A Series and B Series are supplied. These can connect with the Midea VRF System (except V4+R& V5 Series). The A Series is an independent control box. For the B Series, up to four control boxes can be combined. The capacity reaches up to 224kW (80HP), and it's easy to create a solution for large projects.

### Wiring Example >>



### Specifications

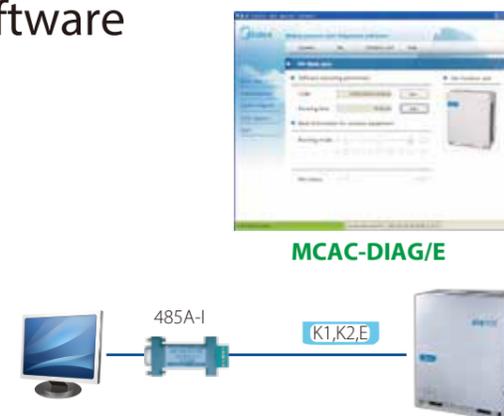
Model	AHUKZ-01A/AHUKZ-02A/AHUKZ-03A AHUKZ-01B/AHUKZ-02B/AHUKZ-03B
Dimensions(HxWxD)(mm)	335x375x150
Power (V)	220-240V~ 50Hz 208-230V~ 60Hz

## Midea Outdoor Unit Diagnosis Software

Display the outdoor units' real-time running conditions.  
Automatically outputs running status charts.  
Supports V3, V4, V4+, D3, D4, V4+S and V4+R outdoor units.

### Wiring Diagram >>

The diagnostic software applies to K1, K2, E of the outdoor units. The corresponding wiring diagram is shown in the figure on the right.



### Recommended Config

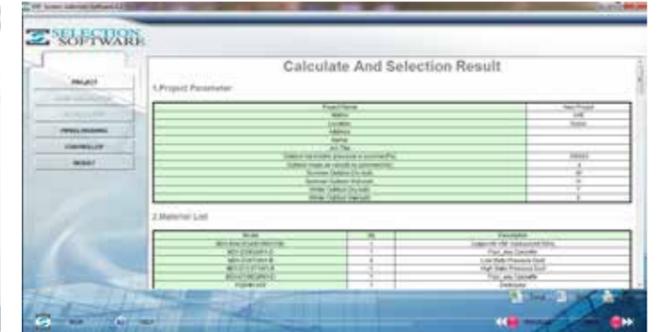
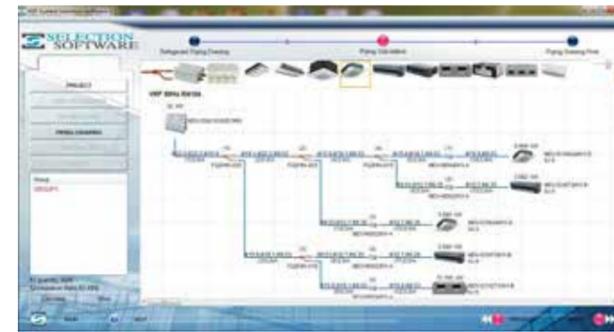
Operating system	WIN XP SP4/WIN 7
CPU	Pentium 4 2G or above
HDD	30G free space
Interface port	RS-232 terminal

## Selection Software

To meet consultants' and distributors' requirements, Midea has developed an advanced design automation tool that can be used in AutoCAD-based CAD version or Windows-based Sales version. The software provides quick and convenient selectable options for users, supports multiple languages, and greatly improves the selection process.

### Windows Version >>

- Load calculation: provides two calculation methods (detailed room load calculation and rough load calculation).
- Indoor & outdoor units: choose from versatile indoor units and different outdoor units.
- Piping drawing: displays the detailed layout of the A/C system and the parameters for piping and branch distributors.
- Controller selection: provides a selection of controllers for indoor units and outdoor units, including wireless and remote controllers for indoor units.
- Report output: outputs a comprehensive selection report as a Word or PDF document.



### CAD Version >>

- AutoCAD add-on software
- Automatic Calculation: refrigerant & drain pipe size
- Automatic Selection: distributor kit & branch joint
- System Check: installation regulations & adding refrigerant
- Automatic Report: piping installation diagram, equipment list & quotation

