

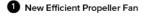
Technological Hisense

- High Technology Support Platform
- Intelligent Operation, Great Reliability
- Easy Installation, Easy Maintenance
- High Intelligent Control System

High Technology Support Platform

Advanced Technology is The Cornerstone of Hisense VRF





Technological Hisense



4 DC-Inverter (DIP-IPM)

High integrated circuit design
High performance and high efficient
High-accuracy control

2 High-performance Heat Exchanger



5 Super-cooling Refrigerant Cycle

Two-stage supper cooling technique and efficient subcooling heat exchanger help increase the super-cooling degree and improve cooling capacity

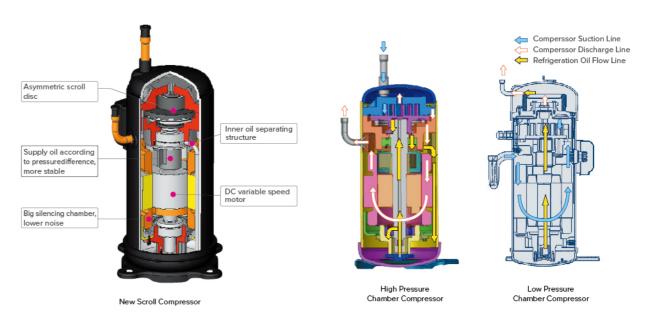
3 Dc Fan Motor



6 High Pressure Chamber Scroll Compressor



New Scroll Compressor

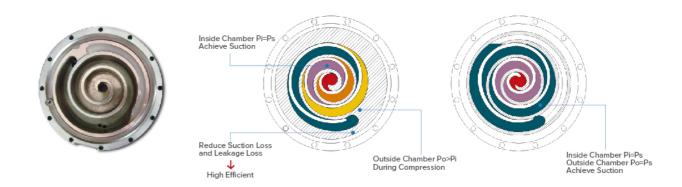


Exclusive Asymmetric Scroll Technology

The asymmetric scroll structure of compressor effectively helps reduce the refrigerant gas leakage loss in the process of suction and compression, enhances operating efficiency and reliability.

Asymmetric scroll: the time difference between the suction of outside chamber and inside chamber is 180°; The pressure of outside chamber and inside chamber are different. The pressure distribution in compressing chambers are asymmetric.

Symmetric scroll: the outside chamber and inside chamber end gas suction at the same time, the pressure of outside chamber and inside chamber are equal. The pressure distribution in compressing chamber are symmetric.

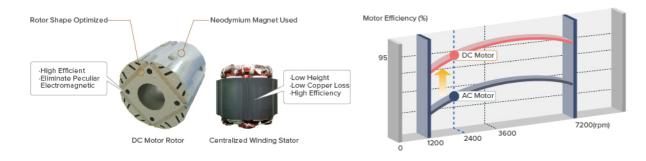


DC Inverter-driven Compressor Motor

High Technology

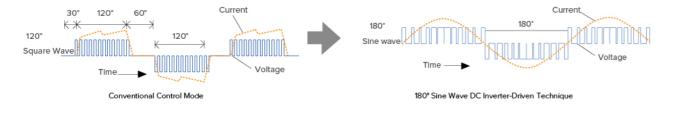
Support Platform

By the use of DC motor, the performance is improved at around 20 ~40Hz where the operation time of the inverter compressor is longest. Meanwhile, the rotor of compressor's motor is divided into two parts to suppress electromagnetic interference (EMI) which achieves low noise.



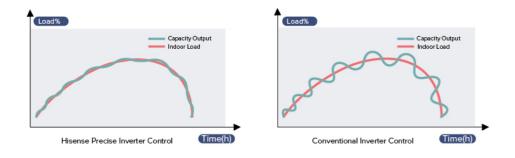
180°Sine Wave DC Inverter-Driven Technique

The application of advanced sensorless three phase vectoring control technique on permanent magnetism synchronous motor ensures the output current of DIP-IPM DC inverter to be a smooth sine wave curve, and accordingly enables motor to operate smoothly with efficiency dramatically increased. At the same time, both harmonic current and electromagnetic noise are suppressed.



Precise Room Temperature Control

The operating speed of DC motor in compressor can be adjusted continuously and freely relating to the variability of system capacity. This technique integrated with auto-adaptive control technique automatically adjusts capacity output according to actual air conditioning load in order to achieve a smoother curve of temperature fluctuation to satisfy higher requirements of coziness.



Multiple Oil Circuit Protection

Oil balance between outdoor units is realized through two-stage oil separation technology, oil-return technology, and oil balancing between modules, which ensures more secure and reliable operation of the system.

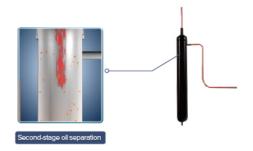
The first-stage oil separation

Make first-stage oil separation through efficient oil separation structure inside high-pressure chamber compressor, only a small amount of oil is brought out of the compressor.



The second-stage oil separation

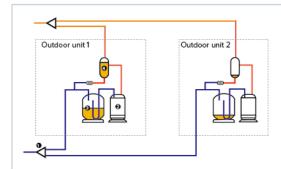
A small amount of oil discharged from the compressor is separated by the second-stage oil separation through large-capacity, high efficiency centrifugal oil separator, the separation efficiency can be over 99%.



The First-Stage Oil-Return Operation

The accumulator adopts porous oil return technology with a built-in efficient fine strainer; it not only ensures the oil balance between the compressors within the module, but also plays a role in the oil balance between the modules.

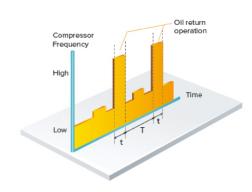




The Second-Stage Oil-Return Operation

The system implements oil-return operation based on the compressor frequency and corresponding operation time, which avoids the oil retention in the indoor heat exchanger and outdoor heat exchanger when the system is running at low load for a long time, and avoids compressor failure due to lack of refrigeration oil. The oil-return operation time is only 60 seconds, after the oil-return control, it will automatically return to the previous operation state.

In winter under heating mode, the oil return operation is implemented without changing to the cooling, which guarantees the heating effect.

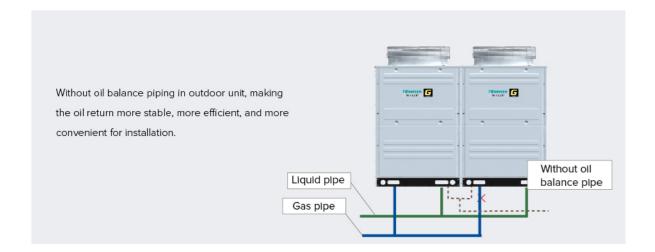


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Oil Balancing Control Between Outdoor Units

Through adjusting the relationship between the amount of discharge oil and return oil in the compressor, accumulator and the oil separator, it can realize automatic balance of lubricants between the various outdoor units without oil balance pipes, avoid fluctuations of system pressure and temperature caused by oil balance pipe mode, and simplify the construction and improve the operational stability and comfort of system.

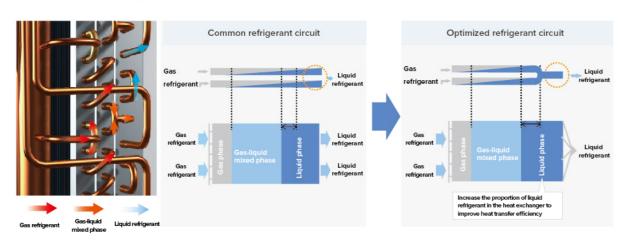


New Type Efficient Heat Exchanger

New type high-performance heat exchanger adopts efficient thermal conductive Φ 7.0mm copper pipes and new type fins, which reduces the air-flow resistance, realizes better heat exchange effect, more sufficient, and improves the heat transfer efficiency considerably. Furthermore, the amount of frost on heat exchanger will decrease quickly in winter, which improves the heating effect.

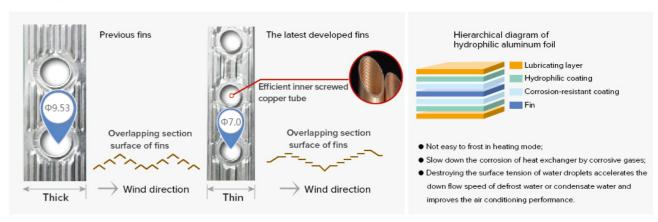
Optimized refrigerant circuit design

Through specially designed refrigerant flow, the efficiency of heat exchanger is more optimized.

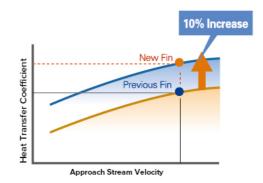


Stepped Efficient Heat Transfer Fins

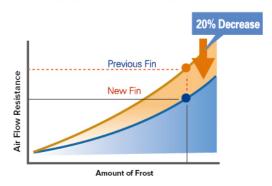
Adopt new type fins and copper pipes which can improve the heat transfer efficiency



Improvement of Heat Transfer



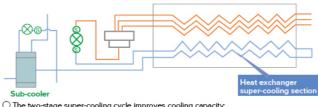
Reduction of Air Flow Resistance



Two-stage Supper-cooling Circulation

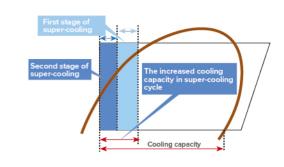
A sub-cooling section is designed in the heat exchanger of outdoor unit to realize the first stage supper-cooling. Furthermore, a high efficient recooler is applied to achieve the second-stage supper-cooling. The total supper-cooling degree is up to 27 °C.

Two-stage super-cooling cycle diagram



- O The two-stage super-cooling cycle improves cooling capacity,
- O The pressure loss of the refrigerant flowing in the pipe is reduced
- O The Increased super-cooling degree promotes the stable operation of the electronic expansion valve
- O The increased super-cooling degree helps increase the total piping length

2-stage super-cooling pressure enthalpy diagram

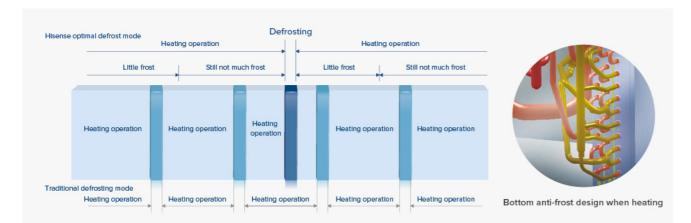


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Intelligent Defrosting Mode

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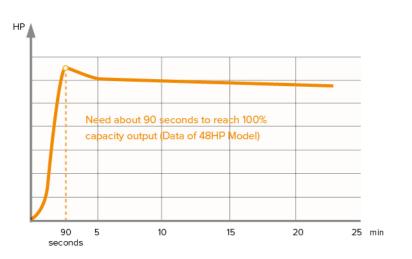
The outdoor unit adopts outdoor temperature sensor and heat exchanger temperature sensor to make variable-parameter defrosting, accurately grasp the defrosting opportunity, and significantly reduce the amount of frost, only 1/3 of that under ordinary defrosting mode. Meanwhile together with unique bottom anti-frost design structure, "2 in 1" heat exchanger, it can ensure that there is no frost at the bottom of outdoor heat exchanger during winter heating. When defrosting, the mixture of ice and water left along the fins is heated fully to liquid and discharged through the bottom drain hole, so as to avoid accumulation of frost at the bottom leading to poor heating performance.



Traditional multi-split AC defrosting mode only refers to Time and Temperature parameter, besides these, Hisense adopts the pressure defrosting mode, which adopts the pressure sensor to get the pressure signal and completes the variable parameters defrosting operation through the Pressure, Temperature and Time parameter.

Rapid Heating Start-up

Combining the soft start of DC inverter compressor and rapid start of fixed speed compressor, the system can achieve 100% heating capacity output instantly and quickly meet the air-conditioning demand. (Taking 460.6KBtu/h unit as an example)



Precise Temperature Control

Temperature Sensing

There are multiple thermal probes in the system, which will make real-time detection and feedback on the outdoor temperature, indoor temperature and outlet air temperature etc, the system output is adjusted by the master controller.



Refrigerant Flow Control

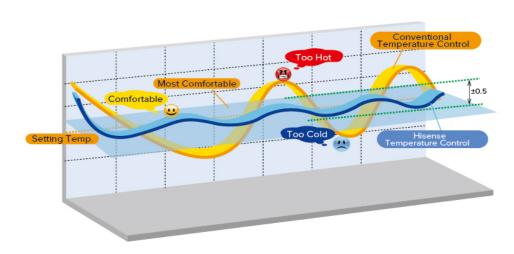
Indoor units adopt microcomputer electric expansion valve with 2000-stage automatic adjustment function, which can make precise flow adjustment automatically according to the actual load of indoor units with more accurate temperature regulation and better energy efficiency.



2000-Stage Flectric Expansion Valve

Precise Room Temperature Control

Hisense sets temperature sensors on air outlet /air inlet of indoor units and remote controller, and adopts microcomputer control 2000-pulse high precision electronic expansion valve to adjust refrigerant flow rate, high precision electronic expansion valve to adjust refrigerant flow rate, which can maintain the room temperature within 0.5 °C of setting temperature and satisfy the indoor comfort requirement.



Condensed Water Protection Function

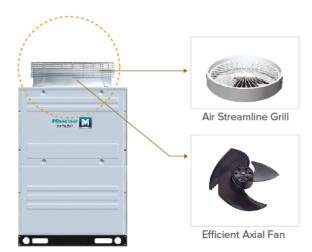
Float switch is as a standard part in Hisense indoor unit. To protect the ceiling from getting wet or soaking, the float switch will work to stop the indoor unit, when condensed water can't be drained in time because of blockage in the drain pipe or drain pump breakdown.

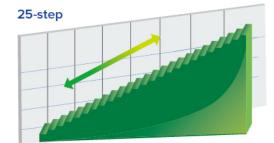
Intelligent Operation Great Reliability

Intelligent Operation Great Reliability

25-Step Fan Speed Control

The DC variable-speed motor is adopted in outdoor unit, which results in efficiency promotion and power input reduction. The outdoor fan speed can be adjusted by 25 steps.

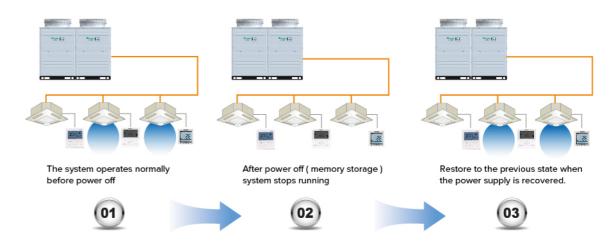




- The stability of discharge pressure and suction pressure of compressor is assured
- The stability of flow (capacity) dynamic allocation of indoor unit is assured
 Quick response of control system is improved, accordingly the system stability
- durability and reliability are assured

Automatic Reset Function

The operating data can be recorded automatically as power failure occurs. When the power supply is restored, the system can fulfill automatic start-up (Manual operation is also allowed), the previous operation mode can be renewed without being reset, which brings more intelligent and considerate service to users.



Outdoor Unit Noise Control



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Adopt high quality scroll compressor

Sophisticated manufacturing technology, with characteristics of little vibration and low noise.

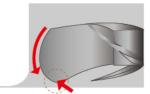
Noise Deadening of Fan Motor

The material of fan motor is cast aluminum. The motor bracket is of non-resonant hanger structure, which ensures stable motor performance, lowers vibrating noise.

New Efficient Axial Fan

The newly developed efficient axial fan with new blade shape helps decrease turbulence around. It is made of special material which has an obvious effect to absorb vibrating noise and minimizes the "Buzz" dramatically.

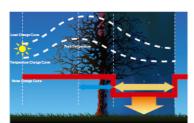




Optimized Radial Airflow Angel

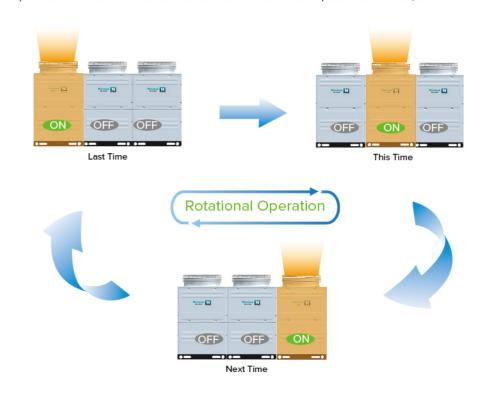
Low Noise Mode at Night

The outdoor unit has a peculiar function of night-shift setting, which reduces the noise level by Max. 15dB (76KBtu/h) when in full-load operation.



Rotational Operation to Distribute Load of Outdoor Units

Regulating the operation time of each outdoor unit leads to load reduction on compressors. Therefore, outdoor unit endurance is improved.



Intelligent Operation Great Reliability

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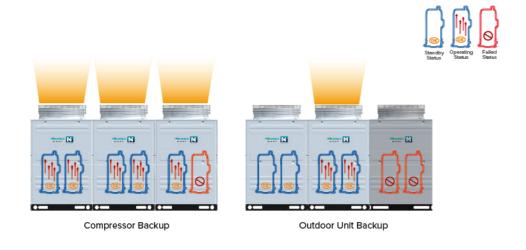
Intelligent Operation Great Reliability

Double Back-up Operation Function, Double Service Guarantee

The back-up operation function that prevents the system from coming to a complete stop can be fulfilled in two ways.

As one of outdoor units breaks down, the rest of outdoor units in the same refrigerant system can turn to operate urgently (more than 154KBtu/h system practicable)

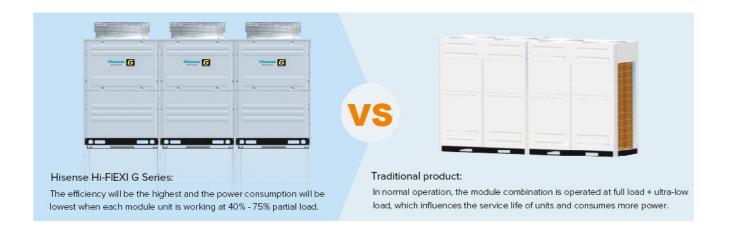
As one compressor is failed, the other compressor in the same outdoor unit can be set to emergency operation mode.



Central air conditioning system is working under partial load most of the time; Hi-FLEXI G series optimizes the software and system especially for partial load, making the system more energy efficient under partial load condition.

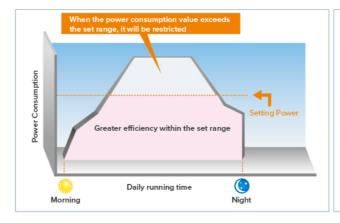
Smart and Precise Unit Capacity Allocation (For Full DC Inverter Series)

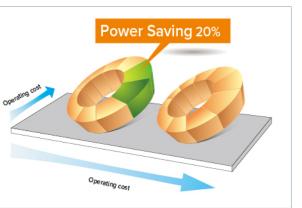
Tests show that multi-split air conditioning units are most efficient under 40% 70% partial load condition, and the power consumption is lowest. Take 20HP units (double module) as an example, when the units operate under 12HP load, the load distribution of each module: common product is 10HP (full load) +2HP (ultra-low load); Hisense Hi-FIEXI G series is 6HP+6 HP (intermediate load).



Demand Mode (For Full DC Inverter Series)

The intelligent demand mode can adjust the air conditioning operation automatically according to peak-valley requirements of electricity. It achieves balance between the comfort and energy saving while meeting the power demand for daily work.



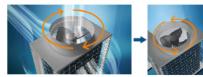


For mode settings, please contact your local service engineer. The output capacity of the unit at this moment is less than the rated value because operating power is limited.

Fan Protection Function

In case that the external forces make outdoor unit fan rotate inversely, the fan will be stopped first when the air conditioner is started, and then the fan will rotate normally in accordance with procedures to protect the blades from damage.

Convention



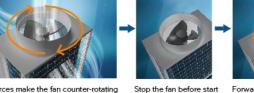
External forces make the fan



ncreased torque may cause damage to the

Fan Protection Function

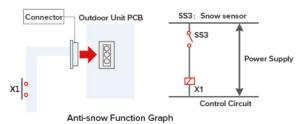




small starting torque,

Anti-snow Function

In the event of bad weather like snowstorm, even if outdoor unit is not operating, the sensor for snow on outdoor PCB can still be shorted because of natural snowflake, then the outdoor fan motor starts rotating at full speed to prevent outdoor unit from being covered by snow. When air conditioning starts up, the fan motor will turn to normal speed.



*This Function Needs Optional Accessor

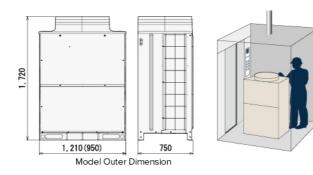
Easy Installation Easy Maintenance

Easy Installation Easy Maintenance

Compact Structure and Light Weight Design, Easy Installation

Easy and flexibility of installation are further enhanced by adopting the outdoor unit's light weight and compact design.

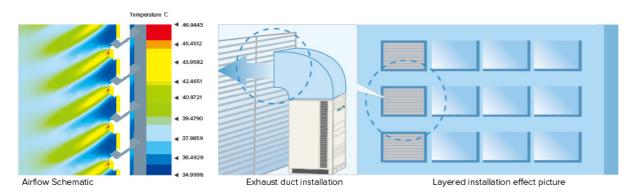
Series	Size (mm)	Weight (Kg)
Hi-FLEXi G series	1,720×1,210×750	318
Hi-FLEXi M series	1,720×1,210×750	310
Hi-FLEXi R series	1,720×1,210×750	318
Hi-FLEXi W series	1,000×780×550	160
Hi-FLEXi C series	1,650×1,100×390	171
Hi-Smart L series	1,380×950×370	97
Hi-Smart E series	800×950×370	78



The maximum size and weight of the basic module of each series.

Layered Installation, Flexibly Corresponding to High-rise Buildings

For high-rise buildings, machine layer can be left to place outdoor units, or machine room can be set up on each floor. By using exhaust duct to exhaust the air, short circuit of return air can be avoided with long air exhaust distance, which ensures good ventilation and heat exchange effects of outdoor units.

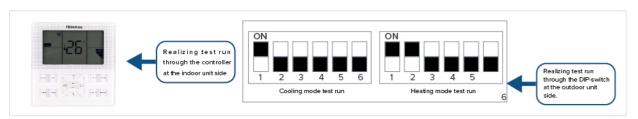


Automatic Addressing

System can assign indoor unit addresses without manual setting automatically, it is suitable for the use of multiple indoor units of large system.

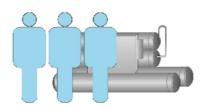
One-touch Test Run

The one-touch test run can be operated at the outdoor unit side, and it can also be operated at the indoor unit side, which makes it much earlier for the commissioning.



Intelligent Operation

Hisense VRF system is highly intelligentized and has no requirement for machine room and operators, realizing much more flexible and convenient control and lower cost.





Intelligent Operation Inspection

The 7-segment LED on the outdoor unit makes it easy to monitor and check the details about the operating status, refrigerant temperature, pressure, compressor operation frequency and time, error code and other factors for maintenance, which makes both operation management and maintenance more convenient.



Data Collector

Data Collector is designed to quickly inspect the units operating status. Problems can be found out as early as possible, then solution can be taken accordingly.



Anti-corrosion Treatment for Outdoor Units - Optional

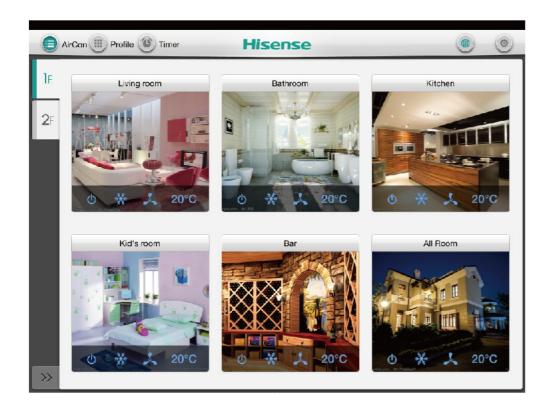
The anti-corrosion treated outdoor units have been designed to provided corrosion resistance against acid rain and salt corrosion. If you need the anti-corrosion type, please contact us.



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High Intelligent Control System

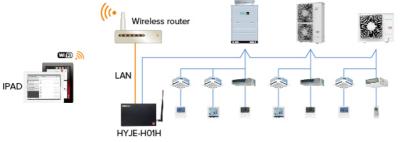
Hisense Mobile Intelligent Terminal



Main Function

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- ON/OFF control, operation mode, temperature setting, air flow setting, louver setting.
- Operate according to a schedule.
- Display the alarm code.
- Contextual model function can be set, e.g.
 Off Home model and Energy-Saving model.
- Max.16 indoor units can be controlled.



Adapter Specifications

Model name	HYJE-H01H	Isolation Voltage	AC 3000V
Input voltage	AC 110~240V 50/60Hz	Operating temperature	0℃~40℃
Maximum operating current	10mA (220 V)	Operating humidity	30%RH~60%RH

• The standard parts of this system includes the converter HYJE-H01H and the client control software HRM-G01 (it can be downloaded and installed in the APP STORE), The IPAD is the registered trademark of Apple Inc.

Various Controllers

Wired Controller: HYXE-J01H

Features:

4 inch large LCD screen with a resolution of 320×185.

Functions are displayed in iconic form, more intuitive.

Operation navigation, more convenient.

It can be used in main-auxiliary control mode or in concert with wireless receiver.

Various displaying settings: backlit control, contrast ratio setting, backlit displaying time setting, keytone setting, indicator light brightness setting, clock setting, language switch (Between Chinsese and English).

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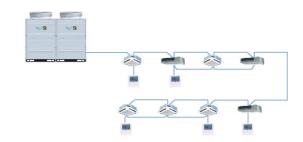
(Touch keys)



Main Functions

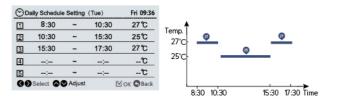
■ Cooling/Heating/Dry/Fan/Auto Fan	■ Speed/Swing Louver	■ Temperature Setting	■ Timer
■ Holiday Setting	■ Weekly Setting	■ Check	■ Air Filter Cleaning Reminding
■ Error Code Display	■ Error History Display	■ Mode Lock	Address Setting

Various Control Solutions



Weekly Schedule Setting

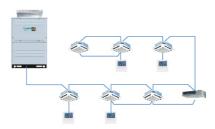
Five different schedule timers can be set for each day of the week.



Indoor Unit Address Change

In the process of installation work, indoor unit address can be changed through wired controller HYXE-J01H.

01-01	02-01	03-01	04-01
01-02	02-02	03-02	04-02
01-03	02-03	03-03	04-03
01-04	02-04	03-04	04-04



Specifications

Model Name	HYXE-J01H
Power Supply	DC 12 ~17 V
Outer Dimension	120X120X16mm
Max. Connectable IDU Number	16

High Intelligent Control System

Wired Controller: HYXE-F01H

Feature:

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Fashion appearance with crystal panel and keys Large LCD backlit screen



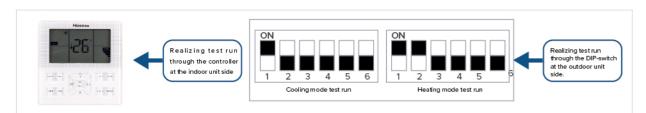
HYXE-F01

Main Functions

■ Cooling/Heating/Dry/Fan/Auto	Fan Speed/Swing Louver	■ Temperature Setting	■ Timer
One Touch Test Pup	Air Filter Cleaning Peminding	■ Error Code Display	Check

One-touch Test Run

The one-touch test run can be operated at the outdoor unit side, and it can also be operated at the indoor unit side, which makes it much easier for the commissioning.



Specifications

Model Name	HYXE-F01H
Power Supply	DC 12~17 V
Outer Dimension	120X120X19mm
Max. Connectable IDU Number	16

Wired Controller: HYXE-A01H



Main Functions

Cooling/Heating/Dry/Fan/Auto	■ Fan Speed/Swing Louver
Took Dura	Air Filter Cleaning Berninding

HYXE-A01H

Temperature Setting

r Code Display	

Specifications

Model Name	HYXE-A01H
Power Supply	DC 12~17 V
Outer Dimension	120X120X19mm
Max. Connectable IDU Number	16

Wired Controller: HYXE-G01H

Features:

Compact structure with a size of 86×86mm.

Built-in wireless receiver under the panel, two kinds of control mode for selection.

Large LCD backlit screen, simple appearance.

HYXE-G01

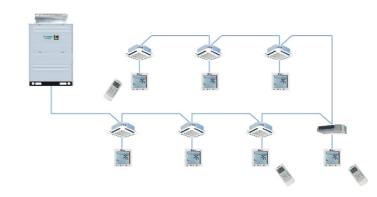
Main Functions

■ Cooling/Heating/Dry/Fan/Auto	■ Fan Speed/Swing Louver	■ Temperature Setting	■ Timer
■ Built-in Wireless Receiver	■ Air Filter Cleaning Reminding	■ Error Code Display	■ Check

Compact structure design











Specifications

Model Name	HYXE-G01H
Power Supply	DC 12~17 V
Outer Dimension	86X86X12.4mm
Max. Connectable IDU Number	1

High Intelligent Control System

Wired Controller: HYE-Q01/ HYE-L01

Feature:

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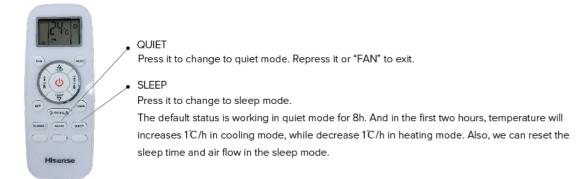
Latest wireless controller with fashionable look. Newly extended sleep mode and quiet mode.

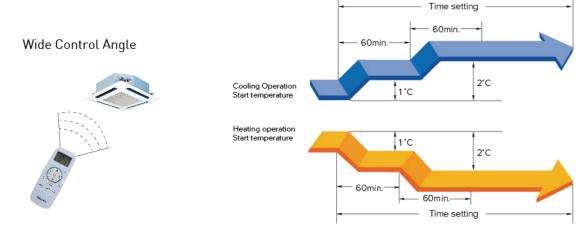




Main Functions ■ Cooling/Heating/Dry/Fan/Auto ■ Fan Speed/Swing Louver One Touch Test Run ■ Check ■ Air Filter Cleaning Reminding Error Code Display ■ Sleep Mode Setting (HYE-L01) Quiet Mode Setting (HYE-L01)

Newly Extended Sleep Mode and Quiet Mode





Specifications

Model Name	HYE-Q01	HYE-L01
Power Supply	2 AAA Batteries 2 AAA Bat	
Outer Dimension	125X55X16.5mm	148X60X17mm
Max. Connectable IDU Number	16	16

HYE-L01 can apply to all the indoor units, but it can only realize sleep and quiet function with the new wall mounted type.

Receiver Kit for Wireless Control - Optional



Model Name	Image	Indoor unit Type	Indoor unit Model
		Ceiling Ducted Type (L)	AVD07~54UXC(2)SBL
		Ceiling Ducted Type (H)	AVD07~54UXC(2)SBH
HYRE-VO1H		Low Height Ceiling Ducted Tpe	AVE22~71UXC(2)SBL
3		Slim Height Ceiling Ducted Tpe	AVE07~14UXC(2)SGL
		Floor Concealled Type	AVH09~24UXC(2)SBA
HYRE-TO1H	TOP.	4-Way Cassette Type	AVC09~54UXC(2)SEB

Hotel Room Card Control - Optional

The "Room Card Control Function" of Hisense VRF indoor unit means control the on and off of the indoor unit through the room card. When under function, the AC system is powered on. The room card can control whether the room lighting is powered on or off and also can control the indoor unit on or off, which as a result can achieve switching off the lights and the AC and energy-saving by withdrawing the room card when people leave.



Hotel Room Card Control

Room Card

High Intelligent Control System

Centralized ON/OFF Controller: HYJ-J01H

Features

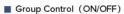
Technological Hisense

- Large size touch-key control design.
- Slim design with a thickness of 13mm
- It can control up to 16 wired controller groups, realizing centralized ON/OFF control.

Main Functions Compac

Compact Structure Design

Centralized ON/OFF Control



- Power Outage Reminder
- Indoor Units Auto Login in
- Error Reminder
- 25, 40,



Specifications

Model Name	HYJ-J01H	
Power Supply	AC1Φ85~265V 50/60Hz	
Outer Dimension	120X120X12.5mm	
Max. Connectable IDU Number	128	

7-Day Timer: HYDE-E01H



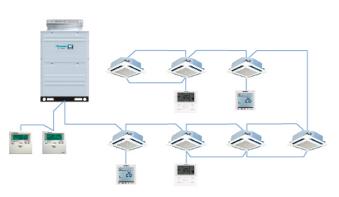
HYDE-E01H



3 Periods Setting on Weekday

■ Holiday Setting ■ Two Modes of Timetable





Specifications

Model Name	HYDE-E01H		
Power Supply	Central controller supply/ Indoor unit supply		
Outer Dimension	120X120X20mm		
Max. Connectable IDU Number			

Central Controller: HYJE-D02H



HYJE-D02H

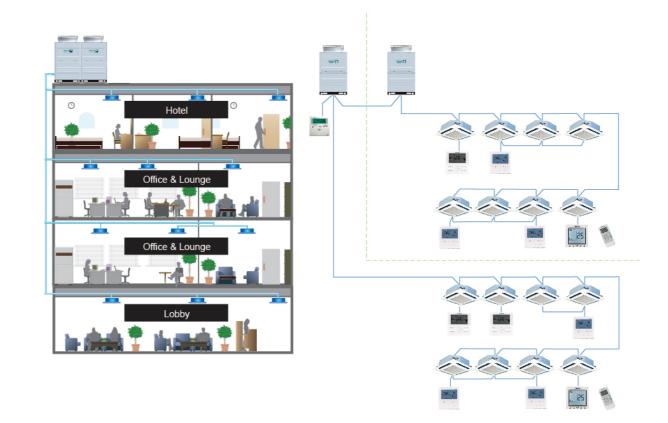
Main Functions

Operation Monitoring

- Cooling/Heating/Dry/Fan/Auto
- Fan Speed/Swing Louver

■ Controller Disable

- Temperature Set
- Error Code Display
- Indoor Unit Selection
- Check



Specifications

Model Name	HYJE-D02H	
Power Supply	AC1Φ,220V,50/60Hz	
Outer Dimension	120X120X20mm	
Max. Connectable IDU Number	160	
Max. Connectable Remote Control Groups	64	

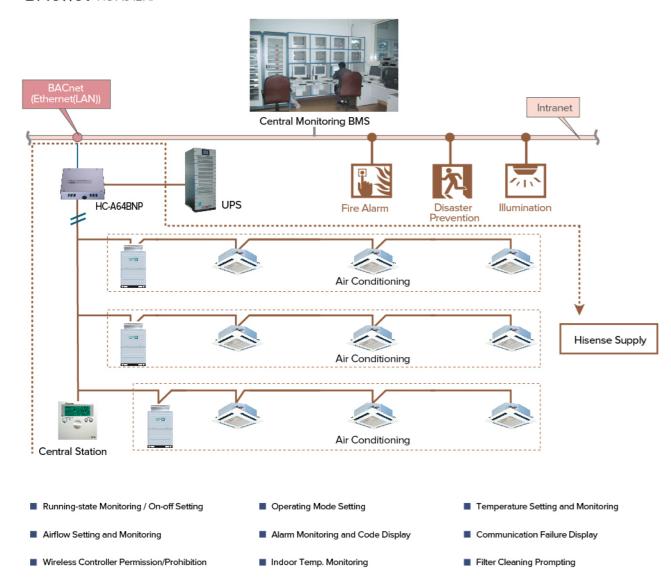
Building Management System

Compatible to multiple communication protocol of BACnet, RS-485 etc. Connectible to BMS or Smart Home System via HC-A64BNP or HLRSCON all of which can connect to Max. 64 indoor units.

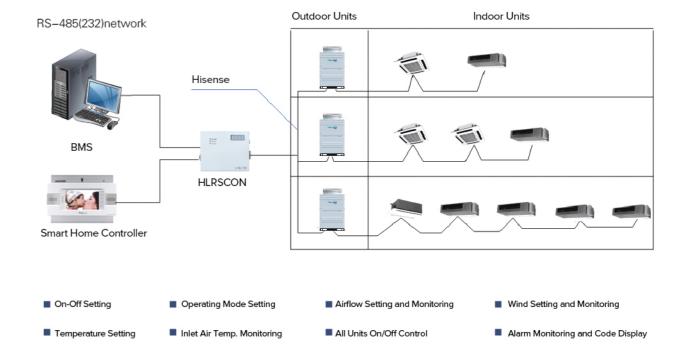
- Real-time operation status monitoring for inquiry
- Operation order from monitoring center

BACnet HC-A64BNP

Technological Hisense



RS-485 HLRSCON



Converter Specifications

	HC-A64BNP	HLRSCON	
Converter	WALKET MINISTER	* 1000 (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	
BMS connection	BACnet	RS-485	
Power supply	AC100~240V±10%(50/60Hz)	AC100~240V±10%(50/60Hz)	
Connectable central controller HYJE-D02H		HYJE-D02H	
IAX.number of connectable indoor units 64		64	
Dimension (LxWxH)	ension (LxWxH) 240mmx204mmx70mm 171mmx140mmx43mm		

 $\mathbf{3}$

High Intelligent Control System

Hi-Dom Air Conditioning Management System

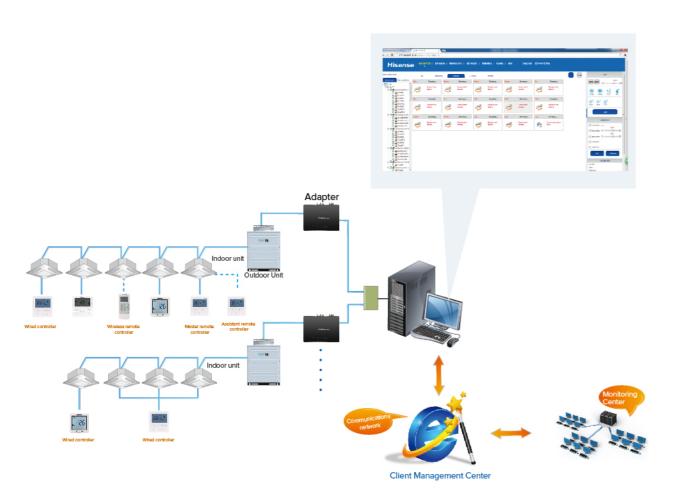
Hi-Dom air conditioning management system adopts communication bus connection, air conditioning indoor units are connected to the computer through network converter; the system is all controlled automatically by a computer with powerful functions and simple operation. One single computer control system can manage 2,048 indoor units.

Main Functions

Technological Hisense

- Running-state Monitoring
- Determine the Temperature Limit
- Running Records Display
- Controller Prohibition Function

- Access Control
- Automatic Operation According to Settings
- Multifunction Alarm
- Service Monitoring



All the indoor units and outdoor units connected with one adapter comprise one communication BUS system.

Max.128 indoor units can be connected to a BUS system.

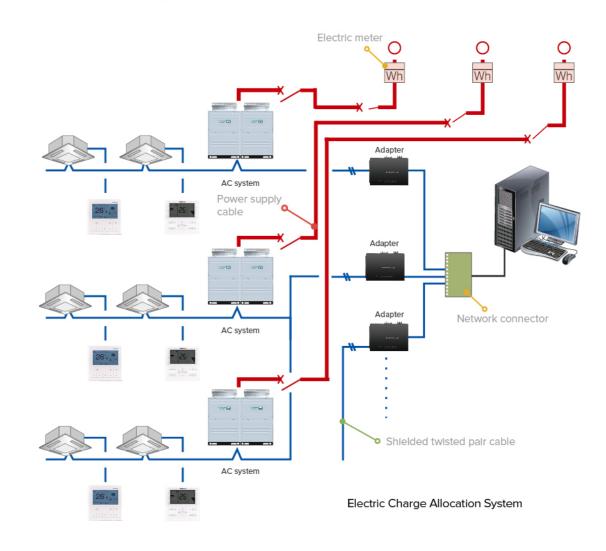
Max.16 adapters can be controlled by one computer.

Max.2048 indoor units are under control.

Air Conditioning Electric Charge Allocation System

Hisense electric charge allocation system consists of meter reading system and air conditioning management system. In accordance with the operation time and capacity output of indoor and outdoor units, the opening degree of EEV, the electric charge allocation software allocates the total power consumption to each indoor unit.

Note: Due to different laws and regulations in different regions, Hisense electrical charge calculation software need to customize processing in project according to the users' requirement.



Hi-Dom System Specifications

	Model name	Power Supply	Dimension(mm)	Charging Function
Adapter (Hi-Dom)	HCCS-H128H2C1YM	DC 12V	180x110x40	With charging function
(111 2011)	HCCS-H128H2C1NM	DC 12V	180x110x40	Without charging function