

HITACHI

Technical Bulletin

airCloud Gateway

Edit	Qianyun Zhou		Management No.	Date	Edit	Review	Approve
Review	Frank Yuan						
Standardization	Valen Liu						
Approve	Yongquan Xie	Mark	Change Record				
NO. HB2019257A		Hitachi - Johnson Controls Air Conditioning, Inc.					

New Products Information

Distributed to ✓ Areas:

All Areas		Oceania		Europe	✓
China		India	✓	NA	
SEA	✓	JP		LA	
Taiwan	✓	ANZ	✓	Brazil	✓
NOTE ()					

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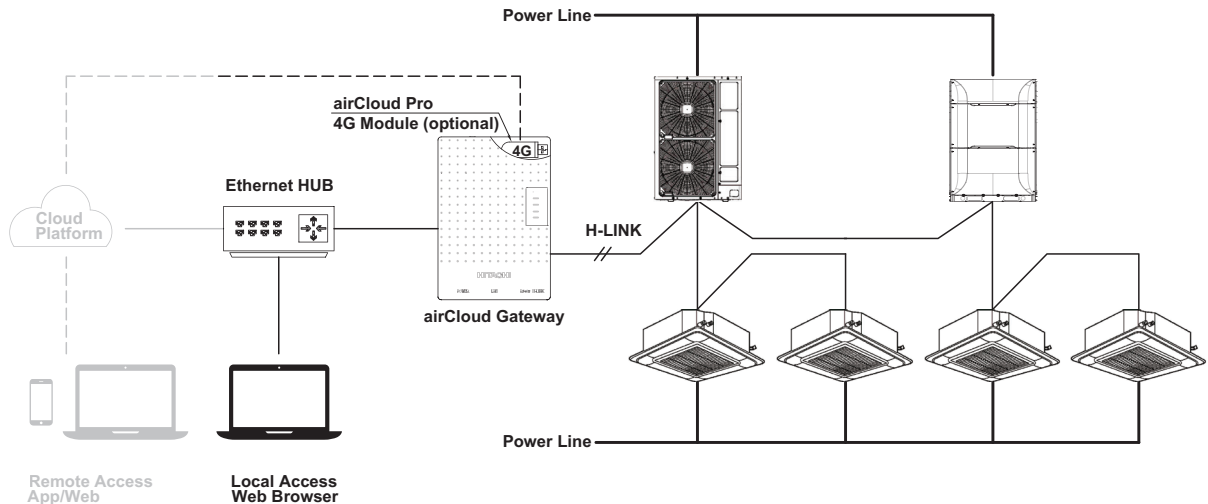
airCloud Gateway

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1. Function

airCloud Gateway is an interface device for connecting an H-LINK which connects air conditioner to Cloud Platform via Ethernet or 4G.



System Configuration

- Up to 8 central controller units and 80 indoor units can be connected.

Units Can Be Connected

Transmission Method	Outdoor Unit	Indoor Unit	Central Controller
H-LINK II	Max. 16 units	Max. 80 units	Max. 8 units(including this device)
Excluding H-LINK II	Max. 16 units	Max. 64 units	Max. 8 units(including this device)

- Connect to Cloud Platform via Ethernet or 4G.
- User can control and monitor the air conditioner (run/stop, running mode, air volume, set temperature) through a local browser.
- User can control and monitor the air conditioner by mobile App and remote Web .
- Update the firmware on your local web browser.
- Update the firmware via Ethernet or 4G Cloud Platform (OTA (Over The Air) update).
- LEDs indicate operation status.
- User can set schedule for air conditioner in airCloud Gateway.

New Products Information

Distributed to √ Areas:

All Areas		Oceania		Europe	√
China		India	√	NA	
SEA	√	JP		LA	
Taiwan	√	ANZ	√	Brazil	√

NOTE ()

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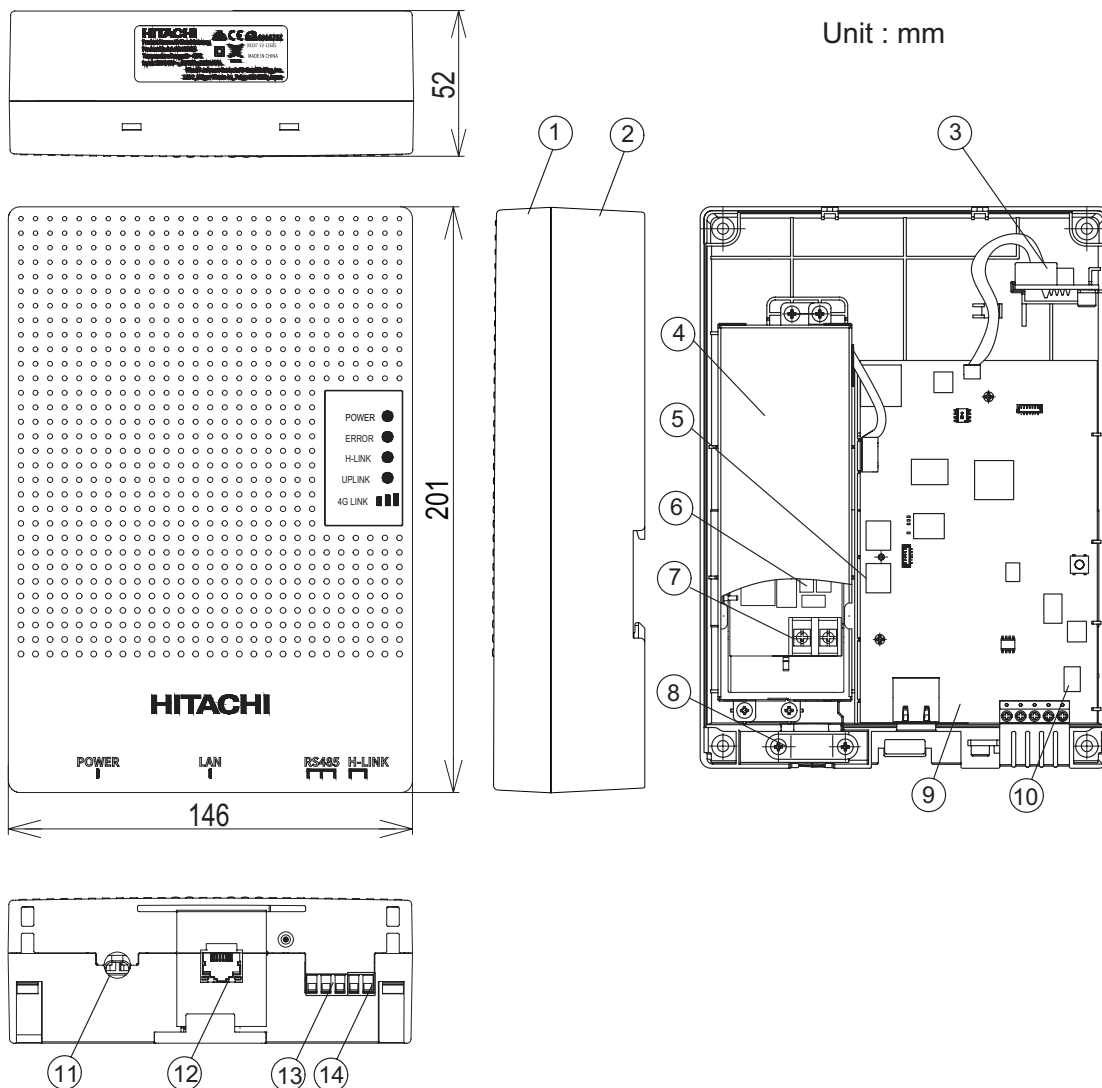
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2. Appearance

Model: HC-IOTGW



No.	Part Name	No.	Part Name	No.	Part Name	No.	Part Name
1	Upper Cover	5	DS1 DIP Switch	9	PCBA Main Board	13	RS485 Wiring Port
2	Bottom Cover	6	Power Board	10	DS3 DIP Switch	14	H-LINK Wiring Port
3	4G Adapter Board	7	Power Supply Terminal	11	Power Wiring Opening		
4	Sheet Metal Upper Cover	8	Line Pressing Board	12	LAN Interface		

New Products Information

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All Areas		Oceania		Europe	✓
China		India	✓	NA	
SEA	✓	JP		LA	
Taiwan	✓	ANZ	✓	Brazil	✓
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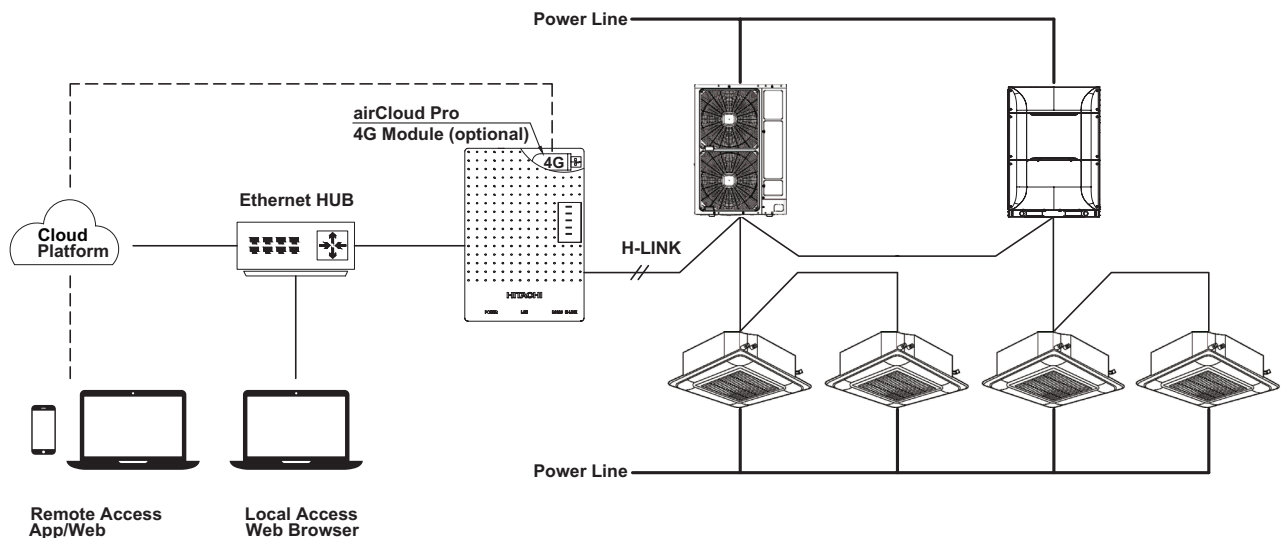
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3. System Configuration

Refer to the installation and maintenance manual for each of the air conditioners and devices connecting to the system.



Sample of System Configuration

1. Hitachi-Johnson Control Air Conditioning provides the airCloud Gateway, 4G Module (optional) and Cloud Platform; others are prepared by user.
2. Up to 16 outdoor units and 80 indoor units / 32 outdoor units and 64 indoor units (excluding H-LINK II, up to 16 outdoor units and 64 indoor units).

3.1 Indoor and Outdoor Unit Supported

Refer to Appendix I – Indoor and Outdoor Unit Supported by airCloud Gateway.

3.2 Combination Use with Other Controllers

airCloud Gateway can be combined with the listed controllers.

Market	Type	Model
Taiwan	Central Controller mini	PSC-A32MN
	Central Controller EZ	PSC-A64GT
Japan	Central Controller mini	PSC-A32MN
	Central Controller EZ	PSC-A64GT1
		PSC-A64GTD
	Central Controller	PSC-A16RS1

NOTE:

1. RC-less indoor units cannot be connected to the system where 2 or more central controllers are connected.
2. One H-LINK system can only have 1 airCloud Gateway, but one H-LINK system can include up to 8 central controllers.

New Products Information

Distributed to √ Areas:					
All Areas		Oceania		Europe	√
China		India	√	NA	
SEA	√	JP		LA	
Taiwan	√	ANZ	√	Brazil	√
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4. Function Table

Item	Description	
Management Range	Up to 16 outdoor units and 80 indoor units / 32 outdoor units and 64 indoor units (excluding H-LINK II, up to 16 outdoor units and 64 indoor units).	
Control	By local web server:	
	IDU	ODU
	On/Off Mode Set temperature Fan speed RC prohibition	None
	By remote App and web:	
	IDU	ODU
	On/Off Mode Set temperature Fan speed Louver RC prohibition	None
Monitor	Monitor the status of air conditioner	
Schedule	Weekly schedule(16 items/day) Annual schedule(Exception day 1-5)	
Software Upgrade	Automatic OTA upgrade of Gateway software or manually through local web server	

NOTE:

Some indoor units may not fully support all functions.

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SEA	√	JP		LA	
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5. Details of Functions

5.1 Control

5.1.1 Control by local web server

Users can control the Indoor Unit by local web server, the supported operations are as below:

Control

On/Off	OFF	Mode	Fan
Fan Speed	Sharp Wind	Setpoint	28.0
Set			

RC operation prohibit

☐ All
☒ On/Off Disable
☒ Mode Disable
☒ Fan Speed Disable
☒ Louver Disable
☒ Setpoint Disable
Set

NOTE:

Please confirm your web browser is one of the following versions or later: Google Chrome 49, Microsoft IE 11.0, Firefox 52.9, and Opera 36.

5.1.2 Control by remote App and web

Users can control the indoor unit by remote App/Web.

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PJ_DEMO

DASHBOARD

OPERATIONS

ERROR HANDLING

PROJECT OVERVIEW

Overview

Scheduling

Operations - Overview

Last Updated on 18:28 December 05, 2019

Indoor Unit

Power ☒

Mode ☒

Fan Speed ☒

Louver ☒

TEMPERATURE ☒

RC Lock ☒

Scheduling ☒

On

Cool

+

+

+

+

19°C

+

Partial Lock

Create

All (6)

Floor 1

Floor 2

Floor 1

3 RC Groups Selected | Deselect

rc1

22°C

rc2

22°C

rc3

19°C

New Products Information

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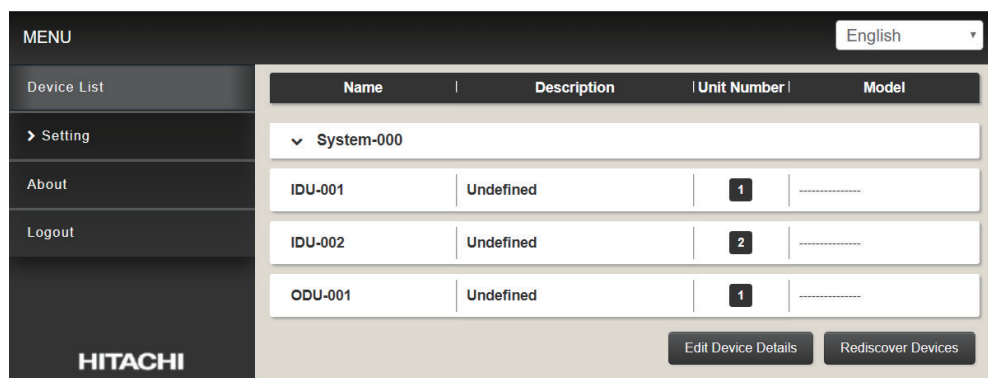
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5.2 Monitor

User can monitor the status of air conditioner by local web server, Mobile App (iOS and Android App will be available) or remote Web.

5.2.1 Local web server

Device List displays all systems connected to airCloud Gateway, including Outdoor Units and Indoor Units.



Clicking on the area of indoor unit will enter into the detail information screen, where all of the indoor status information is displayed and updated automatically.

DEVICE LIST

°C

English

◀ Device List

▶ Setting

About

Logout

Status

Item	Value	Item	Value	Item	Value
System No.	0	Air Volume		Room Therm	
Address	0	iE	2	Warming Up	
Model Code	RPI-	Ti	127.0	HA Control	
Capacity	140	Tg	106.0	Far Pulse	
Run/Stop	OFF	Hi	0	Warm Circulator	
Thermo on	OFF	Ti	26.0	Cold Heater	
Commissioning/Normal	Normal	To	23.0	3Min.Guard	
Mode	Fan	dT	3.0	Power supply start / stop	
Oil Return	----	Tr	-62.0		
ALM	0	fd	0		
Remote Control	Without remote controller	d1	6		
Ts correction	0	Tset/Ts	28.0		

New Products Information

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NOTE ()					

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The outdoor unit status will be displayed when you click on the area of outdoor unit.

DEVICE LIST

°C

English

< Device List

> Setting

About

Logout

Item	Value	Item	Value	Item	Value
Cycle Status	C/H simultaneous	H1(Hz)	0.0	C11	OFF
Run/Stop	OFF	Fo	0	C13	OFF
Heat exchange state	C/H simultaneous	oE1	100	C14	OFF
Preparation for defrosting	Normal	EVB(%)	0	C15	OFF
Emergency driving	Normal	Pd(MPa)	5.07	C16	OFF
Commissioning/Normal	Normal	Ps(MPa)	1.98	C17	OFF
Protection code	--	Td1	84	Y212	OFF

5.2.2 Mobile App and remote web

airCloud Gateway connects to cloud when Ethernet or 4G is available.

User can monitor the air conditioner by mobile App and remote web.

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Operations - Overview

Last Updated on 03 Feb 2020 at 02:55

REFRESH

Indoor Units

STOP ALL

80

ON

ERROR

0

OFF/STOP

79

FILTER CLEAN

79

THERMO-ON

0

SET ALL

All (18)

G1

>

G1

There is no indoor units in this zone.

G1 > s1

Reset

Status ON

22°C

Cool

Heat

Fan

Dry

Reset

OFF

rc group 2 3

Reset

OFF

rc group 3 4

Reset

OFF

rc group 4 4

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NOTE ()					

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5.3 Schedule

User can set schedule for air conditioner in airCloud Gateway. Power, mode, temperature, fan, louver, RC lock can be changed at specified date and time.

*16 schedules can be set on each day.

CREATE NEW SCHEDULE

Select Location

Set Schedule Steps

Review

+

+

+

+

+

+

Set

+

+

+

+

Add Step

STEP 01

START AT

POWER

MODE

TEMPERATURE

Fan

Louver

RC LOCK

07:00

ON

OFF

Cool

25°C

Auto

Auto

Auto

Locked

07:00

TURN ON

Cool

STEP 02

START AT

POWER

17:30

ON

OFF

17:30

TURN OFF

Previous

Next

5.4 Software Upgrade

New functions and bug fixes will be automatically updated to airCloud Gateway if internet connection is available. User can upgrade airCloud Gateway software by OTA or local web server.

5.4.1 Local web server

Select the software files from PC, and clicking the “Upload” button will make the airCloud Gateway execute the upgrade operation immediately.

< Menu

Ethernet Information

Software Updates

Time Zone/Time

Select a file to upgrade.

Note: the device will be restarted after upgrade, downgrading not permitted.

Select File

Upload

5.4.2 OTA

Automatic OTA software updates will be enabled for airCloud Gateway. It downloads and execute the new software when receiving a software upgrade request.

New Products Information

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China		India	√	NA	
SEA	√	JP		LA	
Taiwan	√	ANZ	√	Brazil	√
NOTE ()					

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6. Detailed Specification

• Hardware

Item		Description	Comments
Power system		Single phase three wire system	L / N / PE
Input voltage		AC 100V~240V 50/60Hz	-
Rated voltage		AC 100V/ 220V @50Hz AC 230V @60Hz	-
Maximum power consumption		Max.8W	-
Communication		H-LINK	GW communicates with VRF air conditioning system
		RS485	Baud rate: 9600 bps; Nodes: 32
Communication distance	H-LINK	500m	RVVP 2*0.75mm ²
Internet access	LAN	Support	Standard
	4G	Support	Optional
Log storage		Micro SD card	-
Storage temperature		-10~50°C	-
Working temperature		0~40°C	-
Operating humidity range		30%~90%RH	-
Altitude		≤1000m	-
Pollution level		2	-
Life		10 years	-

• Electrical Safety

Type	Description
Insulation resistance	≥30MΩ
Insulation withstand voltage	1500 VAC / 1Min
Working leakage current	< 0.25mA
Static leakage current	< 0.25mA

Appendix I Indoor and Outdoor Unit Supported by airCloud Gateway

Market	Item	Model Type	Serial Name
Europe Market India Market	Indoor Unit	Ducted (High Static)	RPI-FSN(3,4)E
		Ducted (Medium Static)	RPIM-FSN4E
		Ceiling-Mounted 4-Way Cassette	RCI-FSN4
		Ceiling-Mounted 4-Way Cassette Mini	RCIM-FSN4
		Ceiling-Mounted 2-Way Cassette	RCD-FSN3
		Wall-Mounted	RPK-FSN3M
		Ceiling Suspended	RPC-FSN3
		Floor Concealed	RPF(I)-FSN2E
		Cassette	RCI-FSKDNQ, IN
		Cassette-Comp	RCIM-FSN4, IN
		Cassette-1 Way	RCS-FSN3, IN
		Cassette-2 Way	RCD-FSN3, IN
		Hi-Wall	RPK-FSNK2, IN
		Hi-Wall-Iclean	RPK-FSNK1, IN
		Duct	RPI-FSNK, IN RPI-FSNK(1,2), IN RPF(I)-FSNQ, IN
	Outdoor Unit	VRF Outdoor Unit	RAS-FSXN, ES
			RAS-FSNP, ES, IN
			RAS-FSNS, ES, IN
			RAS-HNBCMQ, IN
Taiwan Market	Indoor Unit	RPI	RCI-28FT
			RCI-36FR
			RCI-40FH
			RCI-45FM
			RCI-50FF
			RCI-56FN
			RCI-63FS
			RCI-71FE
			RCI-80FL
			RCI-90FK
			RCI-112FQ
			RCI-125FY
			RCI-140FZ
			RCI-160FJ
		RPK	RPK-1.0FSNH4
			RPK-1.5FSNH4
			RPK-2.0FSN4
			RPK-2.5FSN4
			RPK-3.0FSN4
			RPK-4.0FSN4
		RPC	RPC-1.5FSN3
			RPC-2.0FSN3
			RPC-2.5FSN3
			RPC-3.0FSN3
			RPC-4.0FSN3
			RPC-5.0FSN3
			RPC-6.0FSN3
		RPK	RPK-1.0FSNH4
			RPK-1.5FSNH4
			RPK-2.0FSN4
			RPK-2.5FSN4
			RPK-3.0FSN4
			RPK-4.0FSN4
		RPC	RPC-1.5FSN3
			RPC-2.0FSN3
			RPC-2.5FSN3
			RPC-3.0FSN3
			RPC-4.0FSN3
			RPC-5.0FSN3
			RPC-6.0FSN3
	Outdoor Unit	Set Free Top Flow (Import)	RAS-FSNS
		Set Free Water Cooling (Import)	RAM-WND
		Set Free Top Flow (Taiwan)	RAM-MN
		IVX	RAM-FSQ/FSQB/FSQD
			RAM-FNS/FNSB
			RAM-FS/FSD
Japan Market	Indoor Unit	Shop/Building Indoor Unit	GP series
			AP series
	Outdoor Unit	Shop/Building Outdoor Unit	GP series
			AP series

Market	Item	Model Type	Serial Name
South and East Asia Market	Indoor Unit	4-Way Cassette(K3,with Panel)	RCI-FSKDNQ
		Low Static Ducted (New frame)	RPIL-HNAUNQ
		Mid Static Ducted (New frame)	RPIM-HNAUNQ
		High Static Ducted (New frame)	RPIH-HNAUNQ
		Mid Static Ducted	RPI-FSN3Q#VE/H
		High Static Ducted	RPI-FSNQ#VE/H
		AC Compact Ducted (New frame)	RPIZ-HNATNQ
		DC Compact Ducted (New frame)	RPIZ-HNDTSQ
		Slim Ducted	RPIZ-FSNQS/P#V...
		Floor Concealed	RPFI-FSNQ#VC/H
		Floor Ceiling	RPFC-FSNQ#VC
		4-Way Cassette	RCI-FSN3
		2-Way Cassette	RCD-FSN3
		1-Way Cassette	RCS-FSN
		In-the-Ceiling Including Drain Up Kit	RPI-FSN1
		In-the-Ceiling High Static PressureIncluding Drain Up Kit	RPI-FSN3
		In-the-Ceiling Medium Static PressureIncluding Drain Up Kit	RPIM-FSN3
		Ceiling	RPC-FSN3
	Outdoor Unit	Commercial Tier-1, HP	RAS-HNBBMQ
		Commercial Tier-1, HP, Anti-corrosive	RAS-HNBBMQ#F
		Commercial Tier2, HP	RAS-HNBCMQ
		Commercial Tier2, HP, Anti-corrosive	RAS-HNBCMQ#F
		Commercial Tier2, CO	RAS-CNBCMCMQ
		Commercial Tier2, CO, Anti-corrosive	RAS-CNBCMCMQ#F
		Residential Tier1, HP	RAS-HNBRKQ
			RAS-HNBRMQ
		Commercial, Standard HR	RAS-FSXNQ#VE/H
		Residential, Tier 1 CO Side flow	RAS-FSNAMQ#VE
		Commercial, Water Source HP	RAS-FSNYW1Q#VE/H
		Module Multi	RAS-FSNS
			RAS-FSNP
			RAS-FSXNS
			RAS-FSXNP
		SF Side Flow	RAS-FSNM
		Japan Premium Model	RAS-HVNP
			RAS-HVNC
Australia and New Zealand Market	Indoor Unit	4-Way Cassette	RCI-FSN3
			RCI-FSKDNQ
		Mini Cassette	RCIM-FSN4
		2-Way Cassette	RCD-FSN3
		1-Way Cassette	RCS-FSN
		Under Ceiling	RPC-FSN3
		Wall	RPK-FSN4M
		Wall-without Ex-valve	RPK-FSNH4M
		High Pressure Ducted	RPIH-HNAUNQ
		Ducted	RPI-FSN2SQ
			RPI-FSN3
			RPIZ-FSNQS/P
			RPI-FSN1
			RPIM-FSN3
		Ducted AC Motor	RPIZ-HNATNQ
		Ducted DC Motor	RPIZ-HNDTSQ
		Floor / Ceiling Convertible Indoor Unit	RPFC-FSNQ
		Floor	RPF-FSN2E
		Floor Concealed	RPFI-FSN2E
		High Pressure Ducted	RPIH-HNAUNQ
		Fresh Air Take Indoor Unit	RPI-KFNQ
	Outdoor Unit	Residential Tier1 Outdoor Unit	RAS-HNBRKQ1
			RAS-HNBRMQ1
		Standard	RAS-FSNS
			RAS-FSXNS
		High Efficiency	RAS-FSNP
			RAS-FSXNP
Brazil Market	Indoor Unit	2-Way Cassette	RCD-FSN3
		1-Way Cassette	RCS-FSN
		4-Way Mini Cassette	RCIM-FSN4
		Floor Exposed	RPF-FSN2E
		Floor Concealed	RPFI-FSN2E
		Wall Mount	RPK-FSN3M
		Ducted High Static	RPI-FSNQH
		4-Way Cassette	RCI-FSKDNQ
		Ceiling Suspended	RPFC-FSNQ#V2
		AHU-Kit	DXF-A

NOTE:

The above units are test supported ones.

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