SAMSUNG

Technical Data Book

System Air-conditioner Control System Guide

History

Version	Modify	Date	Etc.
Ver.1.0	Release "System Air-conditioner Control System Guide" TDB	16.10.20	
Ver. 1.1	Modify DMS 2.5 key function page (P.98)	17.03.23	
Ver.2.0	Release the first half of 2017 version.	17.08.25	

Contents

Individual Control System

Centralized Control System

()* is used in Turkey.

Integrated management System

Gateway

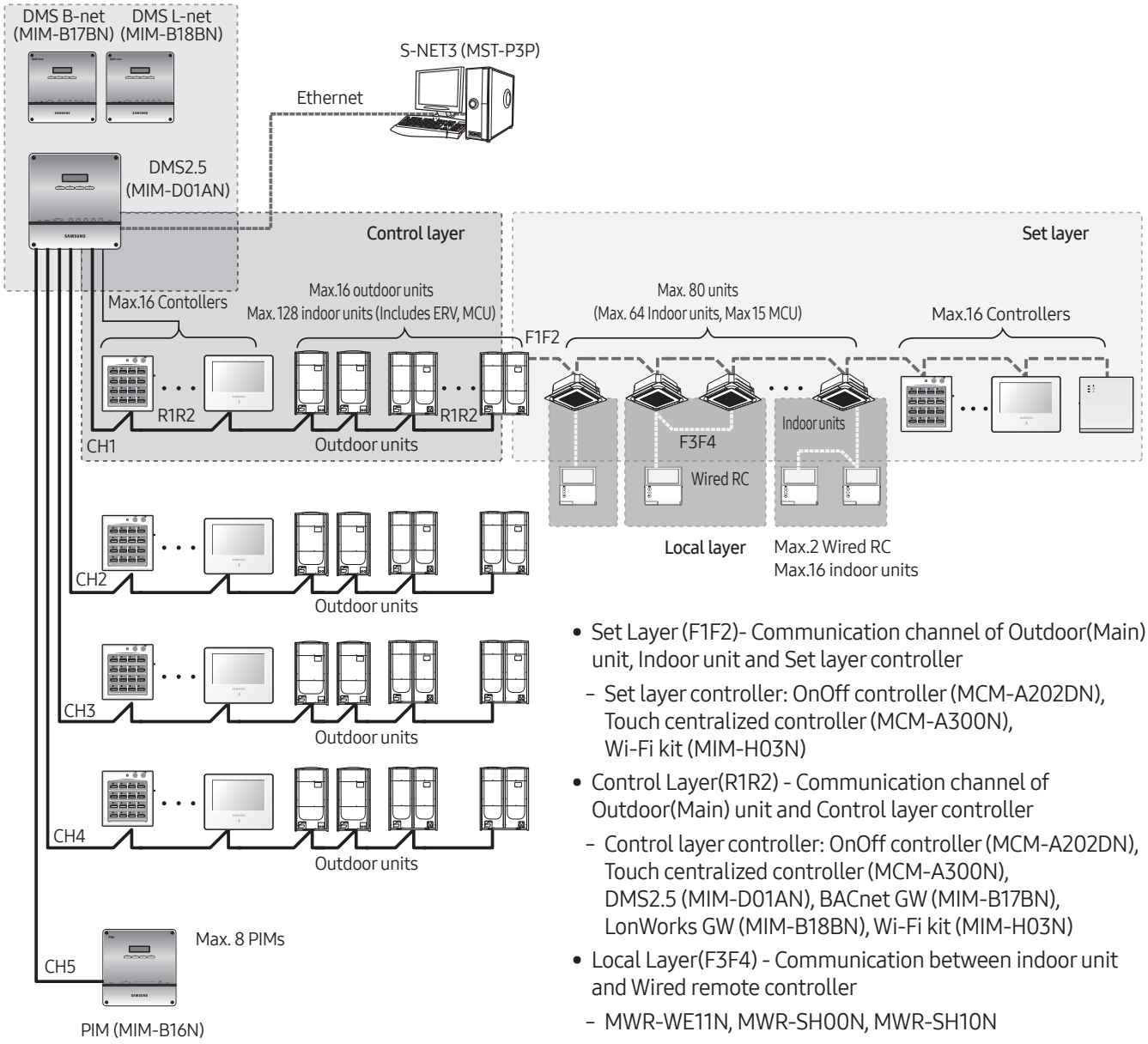
()* is used in Turkey.

Installation/Test run Solution

Others

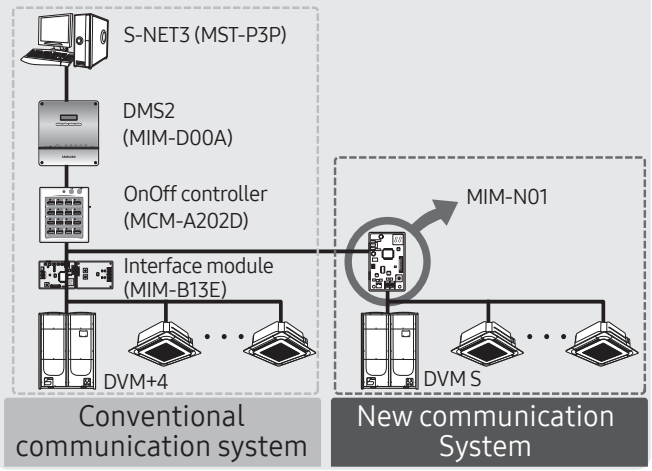
()* is used in Turkey.

Overview of DVM S New communication system diagram

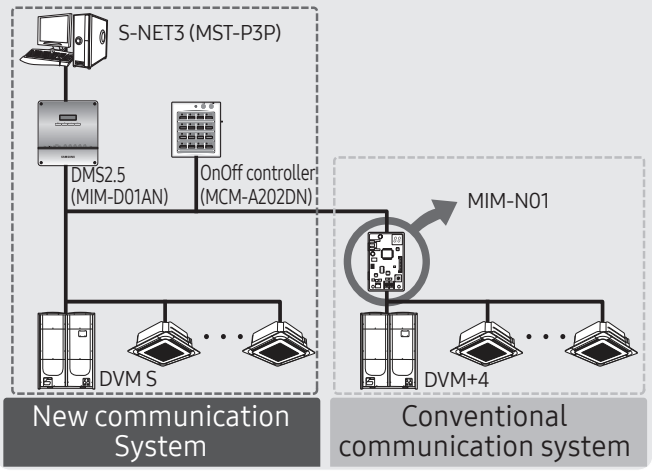


- Set Layer (F1F2)- Communication channel of Outdoor(Main) unit, Indoor unit and Set layer controller
  - Set layer controller: OnOff controller (MCM-A202DN), Touch centralized controller (MCM-A300N), Wi-Fi kit (MIM-H03N)
- Control Layer(R1R2) - Communication channel of Outdoor(Main) unit and Control layer controller
  - Control layer controller: OnOff controller (MCM-A202DN), Touch centralized controller (MCM-A300N), DMS2.5 (MIM-D01AN), BACnet GW (MIM-B17BN), LonWorks GW (MIM-B18BN), Wi-Fi kit (MIM-H03N)
- Local Layer(F3F4) - Communication between indoor unit and Wired remote controller
  - MWR-WE11N, MWR-SH00N, MWR-SH10N

- Case 1 › When DVM S is connected to conventional system



- Case 2 › When DVM+4 is connected to new system



Chapter
01

Individual Control System

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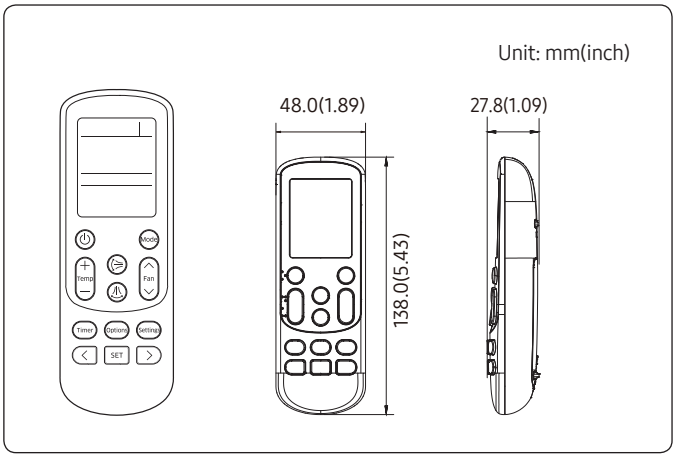
Wireless Remote Controller

MR-EH0✳ (MR-EH0✳R)*

Features

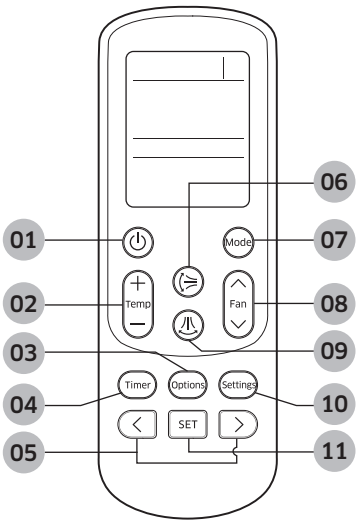


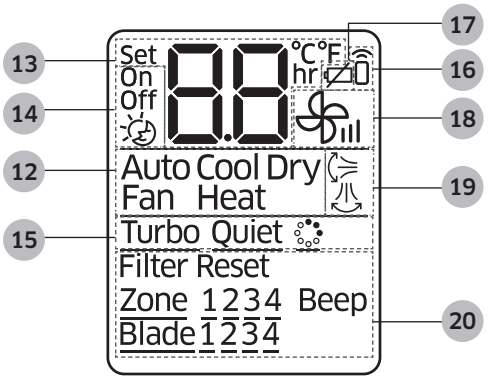
Easy and convenient operation control

- Operation ON/OFF control
- Fan speed control
- Operation temperature setting
- Filter replacement alarm reset
- Air swing control
- Simple ON/OFF timer
- Indoor unit option code setting
- Option/Setting selection

	MR-EH00	MR-EH01
Heating Operating Temperature range	18°C ~ 30°C	8°C ~30 °C

Description of parts





No	Name	Description
01	On/Off button	Press this button to turn On/Off the indoor unit.
02	Temperature button	Press this button to increase/decrease the set temperature by 1°C(1°F).

()* is used in Turkey.

Wireless Remote Controller › MR-EH0⁎ (MR-EH0⁎R)*

No	Name	Description
03	Option button	Selects options during operation.
04	Timer button	Sets timer option.
05	Direction button	Moves to select and set an option.
06	Air flow direction (Up and down) button	Press this button to activate/deactivate vertical air flow movement. (Not applicable to Duct type model)
07	Operation mode button	Press this button to select one of the 5 operation modes. (Auto, Cool, Dry, Fan, Heat)
08	Fan speed button	Press this button to select one of the fan speeds. (Auto, Low, Medium and High.)
09	Air flow direction (Left and right) button	Press this button to activate/deactivate horizontal air flow movement.
10	[Setting] button	Selects settings.
11	Set/Cancel button	Selects or cancels an option.
12	Operation mode indicator	Indicates the operation mode.
13	Set temperature & On/Off set time indicator	• Basic – Indicates the set temperature. • Timer setting – Indicates the On/Off set time.
14	On/Off timer indicator	Indicates the On/Off timer setting.
15	[Option] indicator	Indicates the selected [Option] - Turbo, Quiet, SPI
16	Transmission indicator	Indicates when wireless signal is received (by pressing any buttons).
17	Low battery indicator	Indicates the battery life.
18	Fan speed indicator	Indicates the fan speed settings.
19	Air swing indicator	Indicates when vertical or horizontal air flow movement.
20	[Setting] indicator	Indicates the selected [Setting] - Filter reset, indoor unit selection, Beep, Blade selection

()* is used in Turkey.

Wireless Remote Controller › MR-EH0⁎ (MR-EH0⁎R)*

Additional function

Option code setting

1 Remove the batteries from the remote controller.

2 Press the Temp [+] and [-] button at the same time and insert the batteries.

3 Set the 2 digits of option code.
If you press the Fan [∧] button, you can change the right digit.
If you press the Fan [∨] button, you can change the left digit.

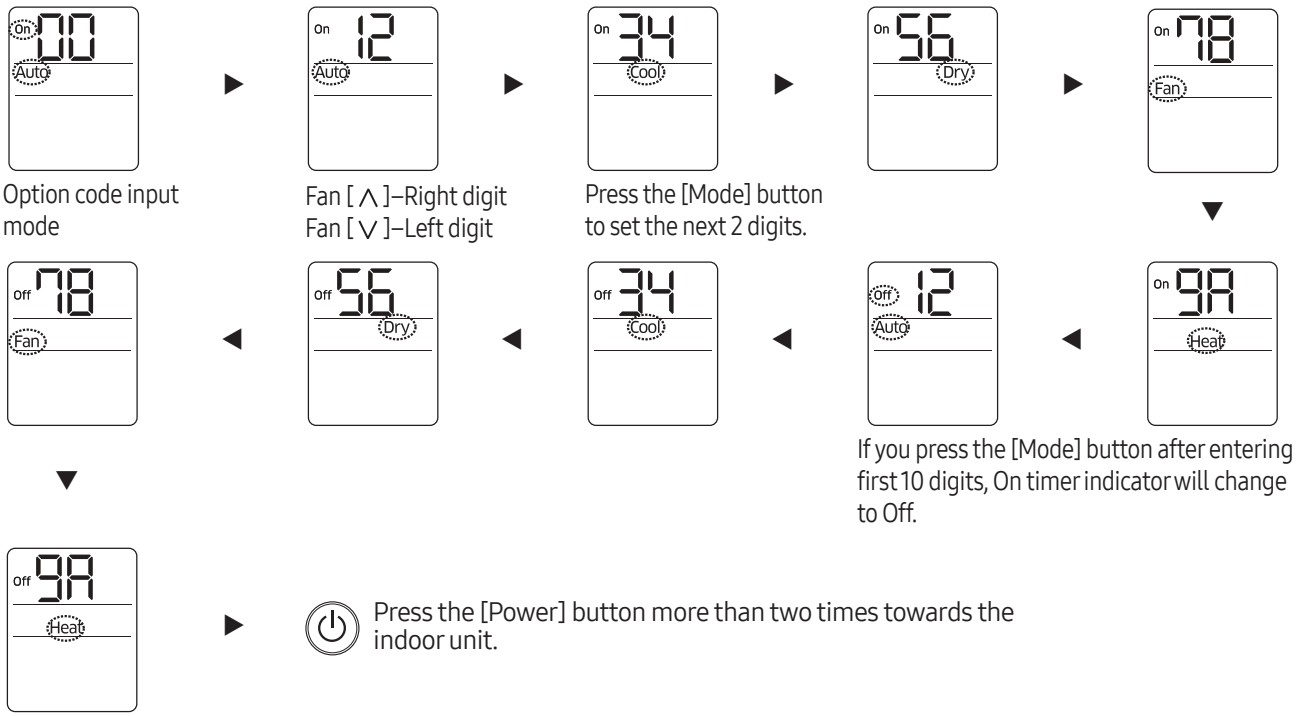
4 Press the [Mode] button to set the next 2 digits of option code. Input 20 digits in total.

5 Press the ⏻ button more than twice to set the indoor unit option code.
(When indoor unit option code is set, a beep will sound. When the setting is incorrect, all the LED on the indoor unit panel will flicker.)

Note

- Option code is composed with total of 24 digits including page number. From the wireless remote controller, enter the option code without page number.

Setting Ex.)
Option code: 012345 – 16789A – 212345 – 36789A
↑ Page 0 ↑ Page 1 ↑ Page 2 ↑ Page 3

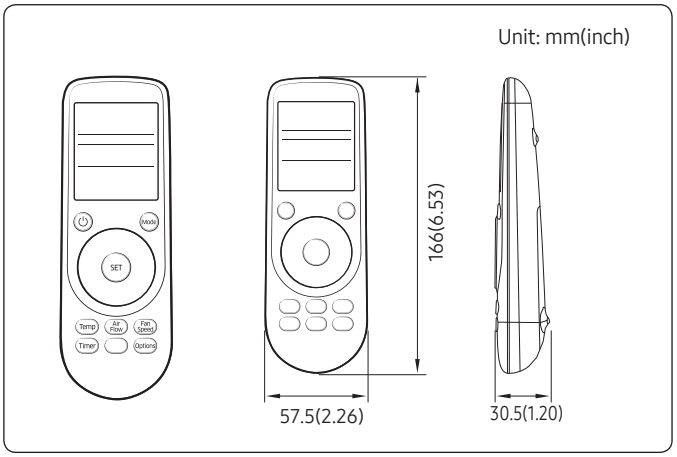


()* is used in Turkey.

Wireless remote controller

AR-KH00E (AR-KH00R)*

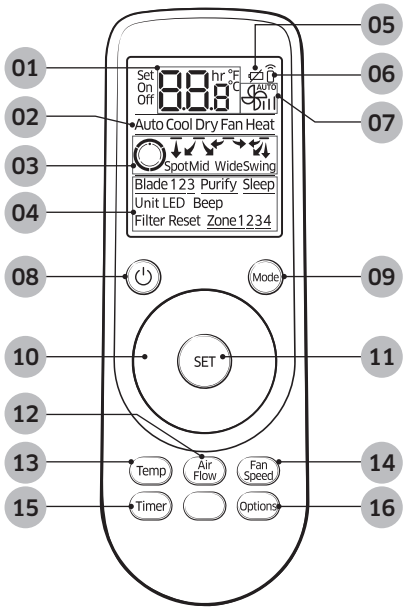
Features



Easy controlling with the wheel

- 360 cassette air flow direction control
- Operation ON/OFF control
- Fan speed control
- Operation temperature setting
- Filter replacement alarm reset
- Simple ON/OFF timer
- Indoor unit option code setting

Description of parts



No	Name	Description
01	Set temperature/ Timer indicator	• Basic – Indicates the set temperature. • Timer setting – Indicates the ON/OFF set time.
02	Operation mode indicator	Indicates the operation mode.
03	Air flow direction indicator	Indicates the air flow direction (Spot, mid, wide, swing)

()* is used in Turkey.

Wireless Remote Controller > AR-KH00E (AR-KH00R)*

No	Name	Description
04	Options indicator	Indicates the option function setting. (Filter reset, Beep, Zone, etc)
05	Low battery indicator	Indicates the battery life.
06	Signal transmission indicator	Indicates when wireless signal is received. (by pressing any buttons)
07	Fan speed indicator	Indicates the fan speed setting.
08	Power button	Press the button to turn On/Off the indoor unit.
09	Mode button	Press the button to select operation mode. (Auto, Cool, Dry, Fan, Heat)
10	Wheel	You can control the set temperature, fan speed, and air flow direction by rotating the Wheel.
11	SET button	Press the button to confirm the selection.
12	Temperature button	If you press the button then the set temperature will be increased by 0.5°C(0.5°F)
13	Air flow direction button	Press the button to select air flow direction.
14	Fan speed button	Press the button to select fan speed.
15	Timer button	Press the button to set timer option.
16	Options button	Press the button to select option function.

Additional function

Option code setting

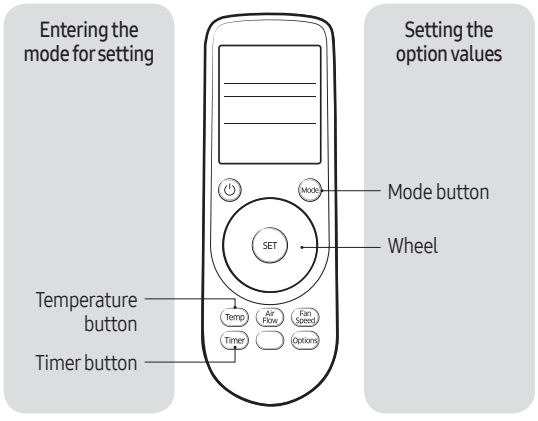
1 Remove the batteries from the remote control.

2 While holding down the (Temp) and (Timer) buttons simultaneously, insert the batteries into the remote control.

3 Set the 2digits of option code
- If you rotate the wheel counterclockwise, you can change the left digit.
- If you rotate the wheel clockwise, you can change the right digit.

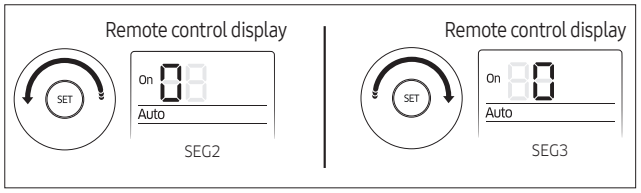
4 Press the (Mode) button to set the next 2 digits of option code. Input 20 digits in total

5 Press the (⏻) button more than twice to set the indoor unit option code.
(When indoor unit option code is set, a beep will sound.
When the setting is incorrect, indoor unit will display error.)



()* is used in Turkey.

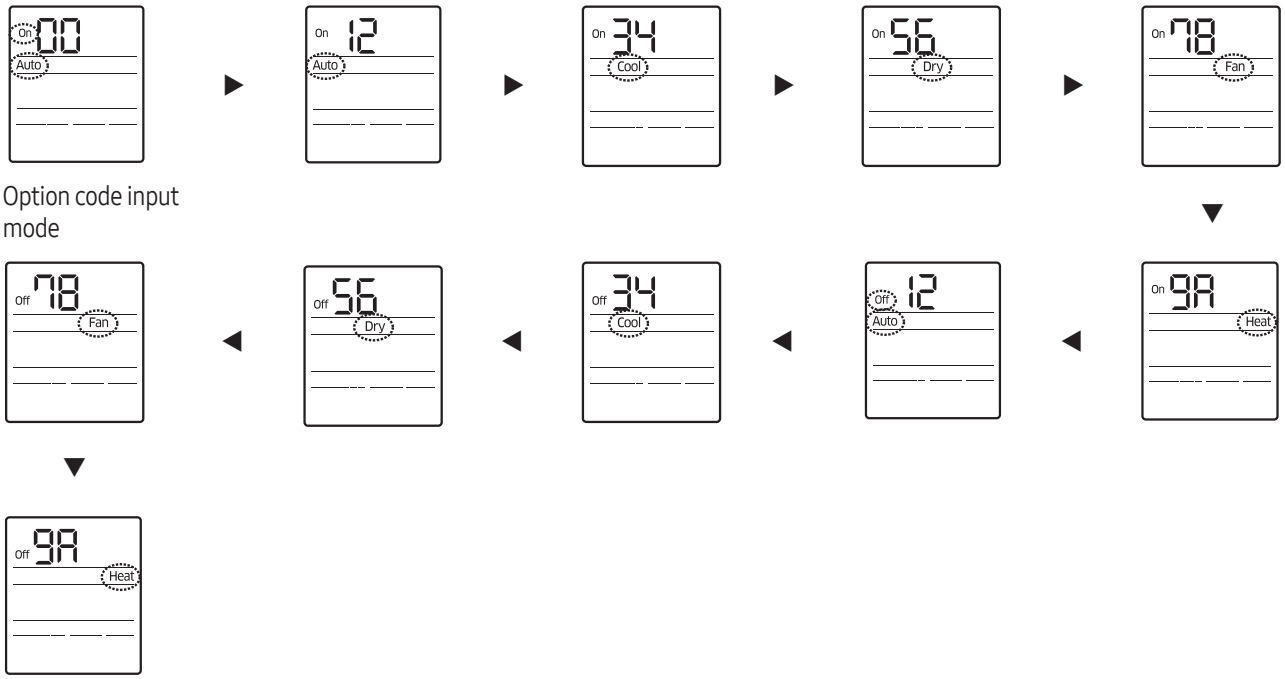
Wireless Remote Controller › AR-KH00E (AR-KH00R)*



Note

- Option code is composed with total of 24 digits including page number. From the wireless remote controller, enter the option code without page number.

Setting Ex.)
Option code: 012345 – 16789A – 212345 – 36789A
↑ Page 0 ↑ Page 1 ↑ Page 2 ↑ Page 3

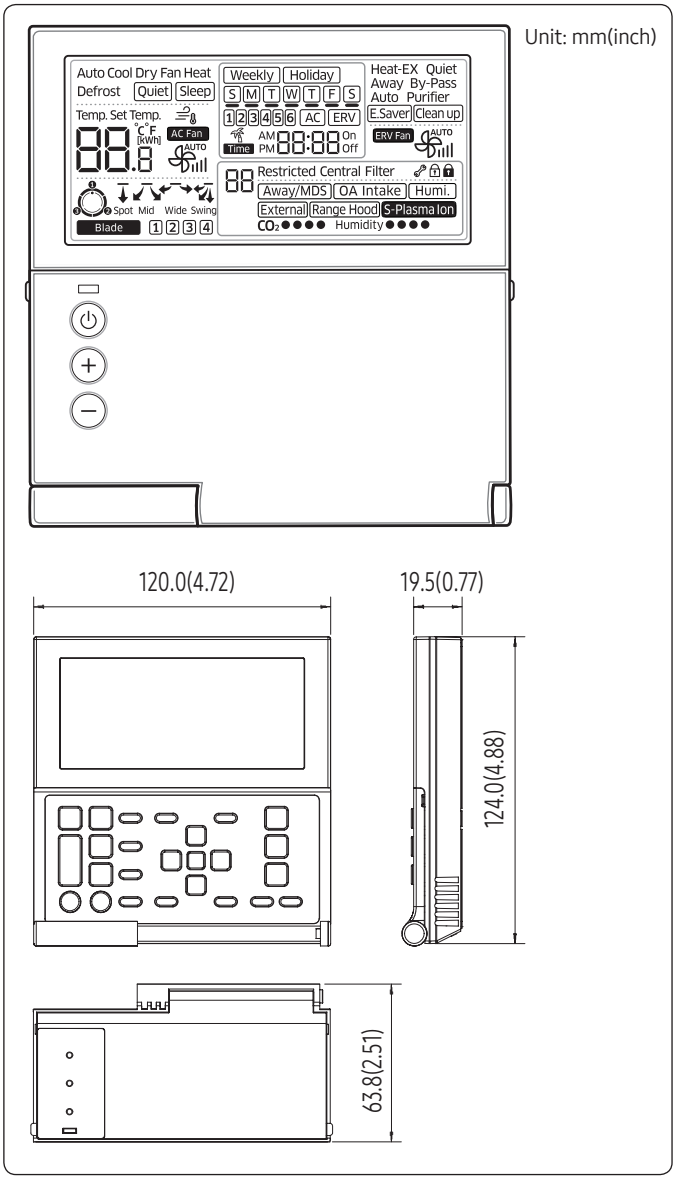


()* is used in Turkey.

Wired Remote Controller

MWR-WE11N (MWR-WE11RN)*

Features



Air conditioner/ERV control

- AC operation ON/OFF control
- AC operation mode, setting temperature, fan speed, air flow direction setting
- AC individual blade control
  (Function is available when indoor units support any of above functions)
- ERV operation ON/OFF control
- ERV operation mode, fan speed setting
- AC/ERV error monitoring
- Filter cleaning alert and reset alert time
- Individual/group control, indoor unit/ERV interlocking control
- Energy saving control
- Control maximum 16 "Indoor unit + ERV" in group with single wired remote controller

Energy saving operation

- Upper/Lower temperature limit setting
- Automatic operation stop: Automatically stops the operation, when it is not used for certain period of time set by user

Weekly operation schedule setting

- Weekly operating schedule (A/C only, ERV only, A/C+ERV)
- Able to set desired AC operation mode, setting temperature and fan speed to operate based on weekly reservation
- Able to apply schedule exception day

User convenience function

- Child lock
- Different button permission levels (Operation mode, temperature setting, ON/OFF, fan speed)
- Real-time clock: Displays current time, day (Summer time support)
- Built-in room temperature sensor
- Service mode support
  - Indoor unit cycle data monitoring
  - Indoor unit option code setting and monitoring
  - Indoor unit address setting and monitoring

()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

Product specification

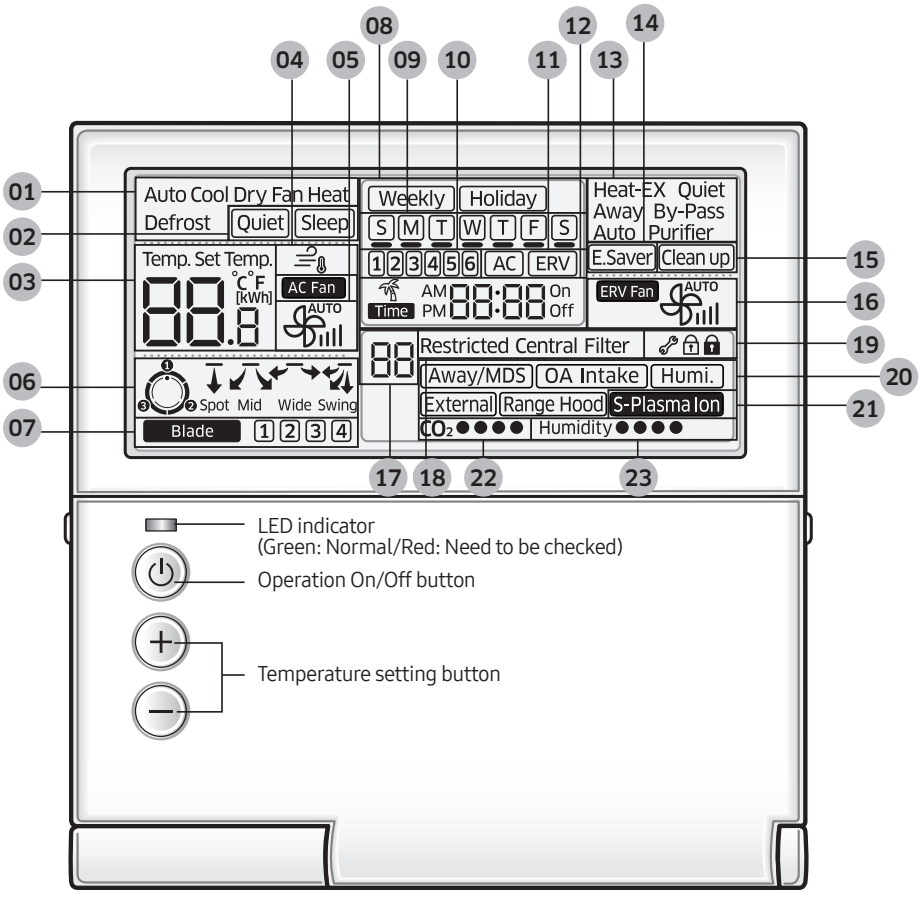
Power Supply	Power Consumption	Operating Temperature range	Operating Humidity range	Communication
DC12V	2W	0°C~40°C (32°F~104°F)	30%RH~90%RH	2-wire PLC

Compatible product

Indoor unit
AM✳✳✳✳N✳✳✳✳✳✳Model

Description of parts

Display



()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Classification		Indication	Function
Air Conditioner Related Information	01	Auto Cool Dry Fan Heat Defrost	Displays air conditioner operation
	02	Quiet Sleep	Displays Quiet/Sleep operation
	03	Temp. Set Temp. °C °F [kWh] 88.8	Displays indoor temperature/set temperature/power consumption
	04		Displays discharge temperature control
	05	AC Fan AUTO	Displays AC fan speed
	06	Spot Mid Wide Swing	Displays air flows
	07	Blade 1 2 3 4	Displays blade selection
Schedule related information	08	Weekly Holiday	Weekly schedule/Holiday setting displays
	09	S M T W T F S	Displays current day(□) or scheduled day(_)
	10	1 2 3 4 5 6	Displays scheduled number
	11	AC ERV	Displays scheduled device selection
	12	Time AM PM 88:88 On Off	Displays current time/summer time/scheduled time
Ventilator (ERV) related information	13	Heat-EX Quiet Away By-Pass Auto Purifier	Displays ventilator (ERV) operation
	14	E.Saver	Displays Energy Saving Operation
	15	Clean up	Displays Clean up
	16	ERV Fan AUTO	Displays ventilator (ERV) fan speed
Common function related information	17	88	Displays remaining time of the auto stop time/ERV delay time - Solid: Hour unit, Blinking: Minute unit Displays Demand Response Mode during a Demand Response Event : d1, d2, d3 (It is applicable to some models for Australia only.)
	18	Restricted Central Filter	Displays invalid operation/central control/filter cleaning (filter cleaning period)
	19		Displays check/partial locking/full locking
	20	Away/MDS OA Intake Humi. External Range Hood	Displays Away/Motion detect sensor/Outdoor air supply intake/ Humidifying/External interconnection control/Range hood
	21	S-Plasma Ion	Displays S-Plasma Ion
	22	CO_2●●●●	Displays indoor CO2 density
	23	Humidity●●●●	Displays indoor humidity

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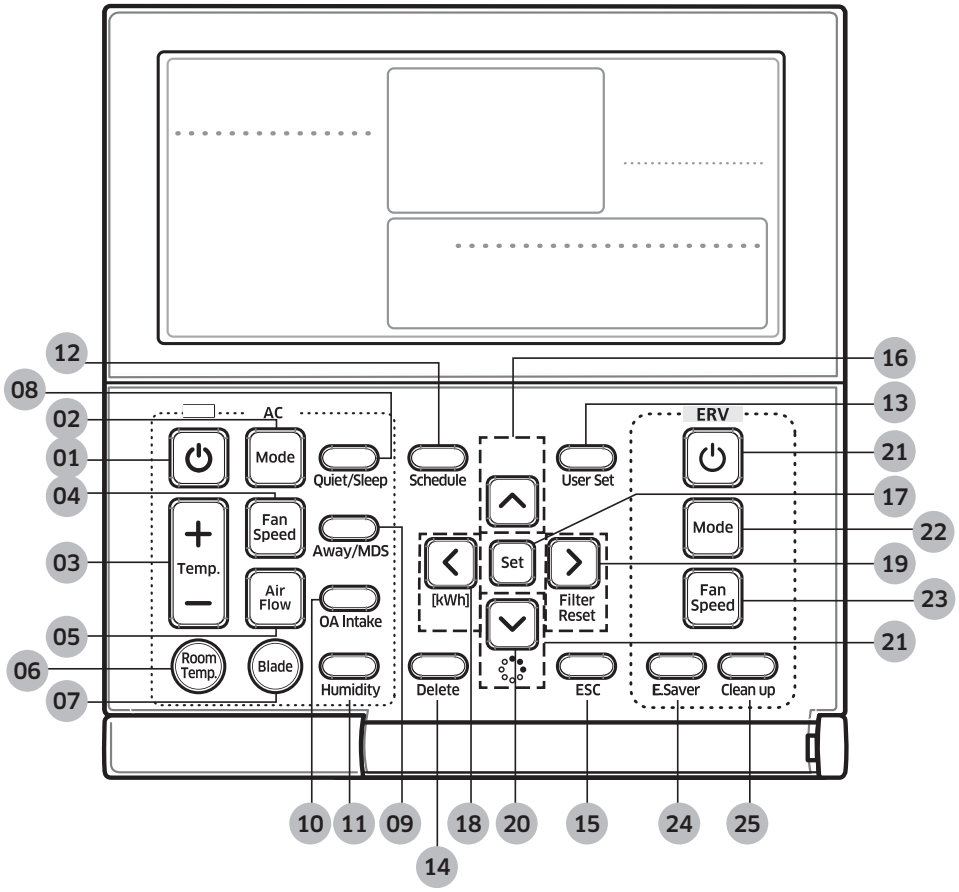
Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Buttons



Classification			Indication	Function
Air conditioner related button	01		Operation On/Off button	Turns the air conditioner power On/Off
	02	Mode	Mode button	Selects the desired air conditioner operation
	03	Temp.	Temperature setting button	Sets the desired temperature
	04	Fan Speed	Fan speed button	Changes the air conditioner's fan speed
	05	Air Flow	Air Flow button	Changes the air flow direction
	06	Room Temp.	Temp. button	Checks the indoor temperature
	07	Blade	Blade button	Selects a blade for individual control
	08	Quiet/Sleep	Quiet/Sleep button	Selects Quiet or Sleep operation for the air conditioner
	09	Away/MDS	Away / Motion detect sensor button	Selects when no one is detected in an indoor area, when the air conditioner needs to be turned off automatically, when the AWAY operation is set;

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Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Classification		Indication		Function
Air conditioner related button	10	OA Intake	Outdoor air intake	Selects the MINI AHU indoor unit Outdoor intake function
	11	Humidity	Humidity button	Turns the MINI AHU indoor unit humidifying function On/Off
Special function displays	12	Schedule	Schedule Button	Selects the schedule setting function
	13	User Set	User Set Button	Selects the detailed setting function
	14	Delete	Delete button	Cancels the schedule setting
	15	ESC	ESC button	Returns to general mode from schedule and detailed setting screens
	16		Navigational buttons	Moves between items or change the item value
	17	Set	Set button	Saves your new settings
	18	[kWh]	kWh button	Displays the amount of the power consumption
	19	Filter Reset	Filter Reset button	Turns off the filter cleaning displays (filter using time reset)
	20		S-Plasma Ion button	Selects the S-Plasma Ion function
	21		Operation On/Off button	Turns the Ventilator(ERV) On/Off
Ventilator (ERV) related buttons	22	Mode	Mode button	Selects the desired operation for the Ventilator(ERV)
	23	Fan Speed	Fan speed button	Changes the fan speed for your Ventilator(ERV)
	24	E.Saver	E.Saver button	Starts Energy Saving Operation
	25	Clean up	Clean up button	Selects air purification through the in/out load controls

Note

- After cleaning the filter, please press the Filter Reset button. The Filter lamp will turn off, and it will be turned on again upon the next cleaning period.
- If you press a functional button not supported by the indoor unit, then the Restricted lamp will turn on.
- If the temperature display setting is set to indoor temperature and you press the Room Temp. button, the Restricted lamp display will appear. (When you install the Wired Remote Controller, the setting is available.)
- If you press the On/Off ⏻ button when your Ventilator(ERV) is connected to a Wired Remote Controller, then the air conditioner and the Ventilator(ERV) might operate or stop at the same time or only the air conditioner might operate or stop. The factory setting is set to simultaneous operation/stop. (When you install the Wired Remote Controller, the setting is available.)
- Although the air conditioner and the Ventilator(ERV) are set to simultaneous operation/stop, you can individually control the air conditioner and the Ventilator(ERV) by using another controller (e.g. wireless remote controller, central controller, S-net mini) except for a Wired Remote Controller.

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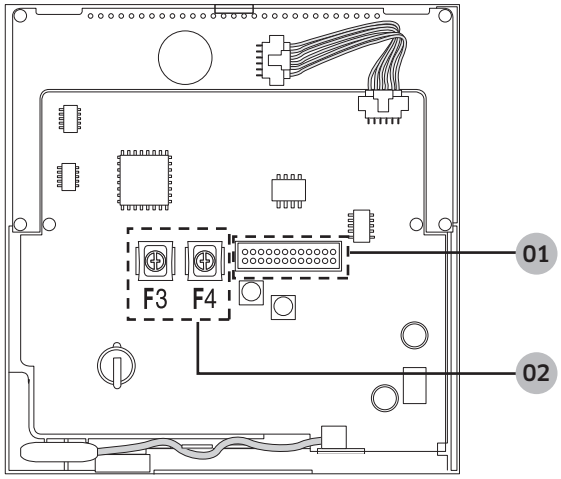
Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Description of parts (PCB)



No.	Name	Description
01	Software upgrade connector	It is used to upgrade the software
02	Communication and power wiring terminal	Connection with indoor unit (F3/F4)

Note

- MWR-WE11N uses 2-wire power line communication.

Option function

User setting mode

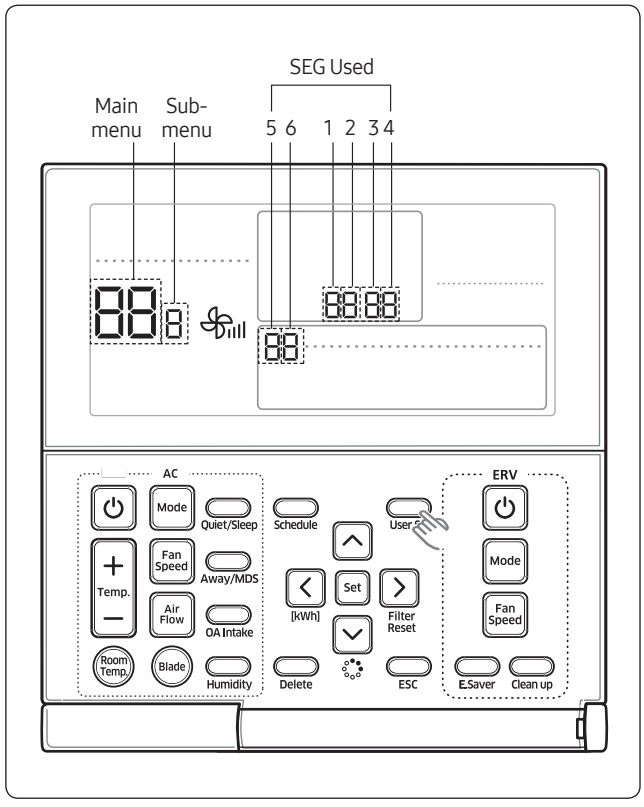
Main menu	Sub menu	Function		SEG Used	Default	Range	Unit
1		Auto stop time setting/checking		1,2	0	0~12 hours	1 hour
2		Temp limits [°C(°F)]	Lowest temperature	1,2	16 (61)	16~30°C (61~86°F)	1°C(1°F)
			Highest temperature	3,4	30 (86)	18~30°C (65~86°F)	1°C(1°F)
3		All lock		1	0	0 – Unlock, 1 - Lock	-
		Lock of partial button	On/Off button	2	0	0 – Unlock, 1 – Lock	-
			Mode button	3	0	0 – Unlock, 1 – Lock	-
			Temperature button	4	0	0 – Unlock, 1 – Lock	-
			Fan speed button	5	0	0 – Unlock, 1 – Lock	-
			Schedule button	6	0	0 – Unlock, 1 – Lock	-
4	1	Current date Setting (Year, Month, Date)		1,2/ 3,4/ 5,6	10/01/01	00~99/1~12/1~31	YY/ MM/DD
	2	Current Time Setting (Day, Hour, Minute)		Day/ Am,Pm /1,2/3,4	Friday/ PM /12/00	Sun~Sat/AM~PM/0~12/0~59	Day/ Hour/ Minute

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Main menu	Sub menu	Function		SEG Used	Default	Range	Unit
5	1	Summer Time Use and Setting Methods	Use of summer time (Y/N)	1	0	0 – No use, 1 – Use	-
			Summer Time Application Method	2	0	0 – Weekly, 1 – Daily	-
	2	Summer time use (Weekly) Start (? Month, ? th Sunday)		1,2/4	03/F	1~12th month/ 1~4,F (last week)th week	-
	3	Summer time use (Weekly) End (? Month, ? th Sunday)		1,2/4	10/F	1~12th month/ 1~4,F (last week)th week	-
	4	Summer time use (Daily) Start (? Month, ? th Sunday)		1,2/3,4	03/22	Jan~Dec/1~31th day	Month, date
	5	Summer time use (Daily) End (? Month, ? th Sunday)		1,2/3,4	09/22	Jan~Dec/1~31th day	Month, date
6		Backlight Time Setting/Checking		1,2	5	0~30 sec	1 sec
		Use of LED(Green) (Y/N)		3	1	0 – No use, 1 – use	-
		Use of LED (Red) (Y/N)		4	1	0 – No use, 1 – use	-
7		Ventilator (ERV) delay time setting/checking [When using Ventilator (ERV) interlocking control]	Ventilator (ERV) Delay Application (Y/N)	1	0	0 – No use, 1 – use	-
			Delay Time	3,4	30	30~60 minutes	1 min.
0		Reset to user mode defaults (except the current time)		1	0	0 – No use, 1 – Reset	-

- How to set the user mode



1 If you want to set the detailed settings, press the [User Set] button.
You will enter the User Set mode, and the [Main Menu] will be displayed.

2 Refer to the Wired Remote Controller's user setting mode table on the previous page to select the desired menu.

a Using the [∧]/[∨] buttons, select a main menu number and press the [>] button to enter the sub-menu setting screen.

b Using the [∧]/[∨] buttons, select a sub-menu number and press the [>] button to enter the data setting screen.

c Once you have entered the setting screen, the current setting will be displayed.

d Refer to the chart for data setting.

e Using the [∧]/[∨] buttons, change the settings and press the [>] button to move to the next setting.

f Press the Set button to save the setting and exit to the sub-menu setting screen.

g Press the Esc button to exit to general mode.

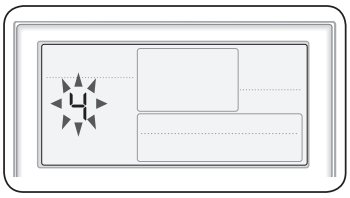
()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

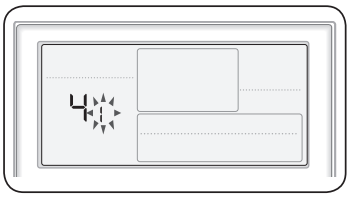
Note

- While setting the data, you can use the [∧]/[∨] buttons to set the range of SEG used.
- While configuring the setting, press the [Esc] button to exit to the sub-menu setting screen without saving the setting.

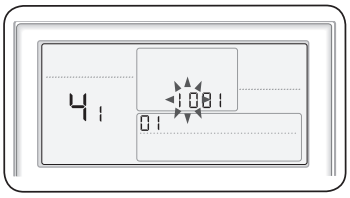
- Current time setting (Example)



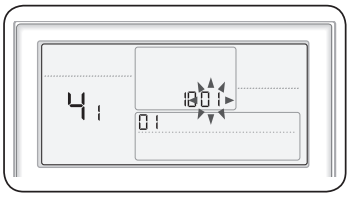
1 Press the [User Set] button.
(Main Menu) will be displayed, and you can press the [∧]/[∨] buttons to select No.4, which will set the current time.



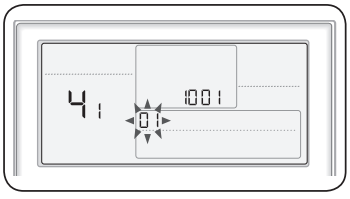
2 Press the [>] button to select 'Year, Month, Date' in the [Sub-menu].
Press the [∧]/[∨] buttons to select No. 1. You can modify the year/month/date setting.



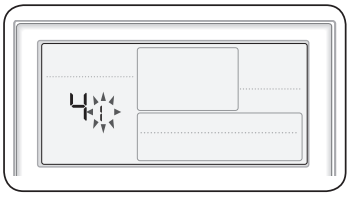
3 Press the [>] button to select the 'Year'.
Press the [∧]/[∨] buttons to select the year ('00~'99).



4 Press the [>] button to select the 'Month'.
Press the [∧]/[∨] buttons to select month(01~12).



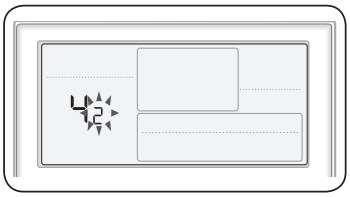
5 Press the [>] button to select the 'Day'.
Press the [∧]/[∨] buttons to select day(01~31).



6 Press the [Set] button to complete your setting of 'Year, Month, Day'.
The setting changes will be applied and you can exit to the sub-menu.

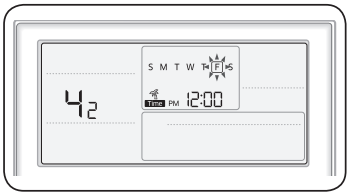
()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*



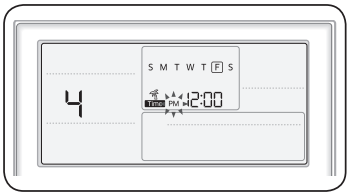
7 In the sub-menu, select 'day, AM/PM, hour, minute'.

Press the [∧]/[∨] buttons to select no.2. You can set the 'day, AM/PM, hour, minute'.



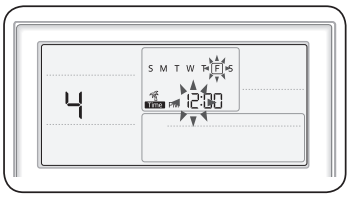
8 Press the [>] button to select the 'Day'.

Press the [∧]/[∨] buttons to select day (Sun~Sat).



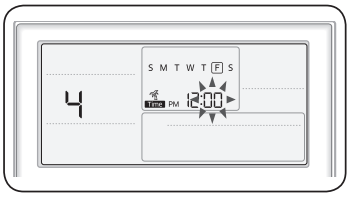
9 Press the [>] button to select 'AM or PM'.

Press the [∧]/[∨] buttons to toggle between AM and PM.



10 Press the [>] button to select the 'Hour'.

Press the [∧]/[∨] buttons to select the hour (01~12).



11 Press the [>] button to select the 'Minute'.

Press the [∧]/[∨] buttons to select minute (00~59).

12 Press the [Set] button to complete the current time setting.

The setting changes are applied and you can exit to general mode.

13 Press the [Esc] button to exit to general mode.

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Service mode

Main menu	Sub menu	Function		Data bit	Factory setting	Description	Unit
1	1	Wired remote controller Option setting/checking (1)	Cooling/Heating selection	1	0	0 – Cooling/Heating, 1 – Cooling only	-
			Use of wireless remote controller	2	1	0 – No use, 1 - Use	-
			MAIN/SUB wired remote controller	3	0	0 –MAIN, 1- SUB	-
			Temperature unit	4	0	0 – Celcius(°C), 1 – Fahrenheit(°F)	-
	2	Wired remote controller Option setting/checking (2)	Temperature sensor selection	1	0	0 – Indoor unit, 1 – Wired remote controller	-
			Use of average temperature	2	0	0 – No use, 1 - Use	-
			Use of Auto mode	3	1	0 – No use, 1 - Use	-
			Temperature display	4	0	0 – Set temperature, 1 - Room temperature	-
			AC On/Off button function	5	1	0 – Indoor unit + ERV, 1 – Indoor unit only, 2 – ERV only	-
	3	Blade setting/checking	Lock of Blade1	1	0	0 – Unlock, 1 – lock	-
			Lock of Blade2	2	0	0 – Unlock, 1 – lock	-
			Lock of Blade3	3	0	0 – Unlock, 1 – lock	-
			Lock of Blade4	4	0	0 – Unlock, 1 – lock	-
	4	ERV option Setting/checking	Use of By-Pass mode	1	0	0 – No use, 1 - Use	-
			Use of Auto mode	2	0	0 – No use, 1 - Use	-
			Use of air purification mode	3	0	0 – No use, 1 - Use	-
			Use of external control	4	0	0 – No use, 1 - Use	-
	5	Room Temperature compensation	Temperature control reference	1,2,3	0	-9 ~ 40 °C(15~104 °F)	0.1 °C
			Temperature compensation value	4,5,6	0	-9.9 ~ 9.9 °C	0.1 °C
	6	Number of connected units	Number of indoor units	1,2	-	0 ~ 16	-
			Number of ERVs	3,4	-	0 ~ 16	-
	7	Desired temperature increment/decrement (°C only)		1	0	0-1 °C, 1-0.5 °C, 2-0.1 °C	-
	8	Set/Check ERV Energy saving operation	Select individual Energy saving operation	1	0	0-ON/OFF alternating operation, 1-Outdoor air cooling operation for different temperature setting	-
			Minimum temperature of outdoor air cooling	3,4	15	5 ~ 15 °C (41~59 °F)	°C
	0	Factory option setting		1	0	0 – Unchanged 1 – Factory setting	-
2	1	Software code		1~6	-	Software code	-
	2	Software version		1~6	-	Software version	-

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Main menu	Sub menu	Function		Data bit	Factory setting	Description	Unit
3	1	Indoor unit room temperature		1,2,3	-	Room temperature	°C
	2	Indoor unit EVA IN temperature		1,2,3	-	EVA IN temperature	°C
	3	Indoor unit EVA OUT temperature		1,2,3	-	EVA OUT temperature	°C
	4	Indoor unit EEV step		1,2,3	-	EEV step	-
	5	Indoor unit option checking (1)	Use of central control	1	-	0 – No use, 1 - Use	-
			Use of drain pump	2	-	0 – No use, 1 - Use	-
			Use of electric heater	3	-	0 – No use, 1 - Use	-
			Use of hot water coil	4	-	0 – No use, 1 - Use	-
	6	Indoor unit option checking (2)	Use of external control	1	-	0 – No use, 1 - Use	-
			Use of RPM compensation	2	-	0 – No use, 1 - Use	-
			Filter time	3	-	0 – 2000 hours, 1 – 1000 hours	-
			Heating temperature compensation	4	-	0-2 °C, 1-5 °C	-
			EEV stop step in heating	5	-	0 – 1/80 steps, 1 – 80	-
4	1	Indoor unit/ Ventilator (ERV) option setting [2)*]	Setting/Checking the address	12	-	MAIN address (00H~4FH)	-
				34	-	MAIN address (00H~4FH)	-
				56	-	Group address (00H~FEH)	-
	2		Setting/Checking the product option	[1)*]	-	Refer to the installation manual of the connected indoor unit/ventilator (ERV)	-
	3		Setting/Checking the installation option 1	[1)*]	-		-
	4		Setting/Checking the installation option 2	[1)*]	-		-
	7		MCU/Port address setting	1,2,4	-	MCU address (00 to 15) Port address (A to F)	-
5	1	Mini AHU setting/ checking	RPM setting/checking	3,4	-	0~31 steps	1 step
			Humidity setting/checking	6	-	0 – 30, 1 - 40, 2 - 50	-
	2	Setting/Checking the discharge temperature of the indoor unit	Use of discharge temperature control	1	-	0 – No use, 1 - Use	-
			Cooling discharge temperature	3,4	-	8~25 °C (46~77 °F)	1 °C
			Heating discharge temperature	5,6	-	18~43 °C (64~109 °F)	1 °C
	3	Fresh Duct discharge temperature checking	Cooling discharge temperature	1,2	-	13~25 °C (55.4~77 °F)	1 °C
			Heating discharge temperature	3,4	-	18~30 °C (64~86 °F)	1 °C

()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

Main menu	Sub menu	Function		Data bit	Factory setting	Description	Unit
6	1	ERV Plus setting/ checking	Use of cold air prevention	1	-	0 – No use, 1 - Use	-
			Use of humidification when Heating thermo off	2	-	0 – No use, 1 - Use	-
			Use of fan operation in Defrost	3	-	0 – No use, 1 - Use	-
			Use of humidification when Heating	4	-	0 – No use, 1 - Use	-
	2	ERV Plus temperature setting/checking	Cooling	1,2	-	15~30 °C (59~86 °F)	1 °C
			Heating	3,4	-	15~30 °C (59~86 °F)	1 °C
	3	ERV Plus Auto mode temperature setting/checking	Set temperature	1,2	-	15~30 °C (59~86 °F)	1 °C
			Set temperature difference	3,4	-	5~15 °C (41~59 °F)	1 °C
	4	Setting/checking the compensating temperature A under the Heating EEV control for ERV Plus		1,2	-	0~10 °C	1 °C
		Checking the compensating temperature B under the Heating EEV control for ERV Plus		3	-	0 – Non use of humidifier (0 °C/32 °F) 1 – Use humidifier(10 °C/50 °F)	-
	5	ERV Plus fan RPM setting/checking	Air supply RPM	1,2	-	10~27 steps	1 step
			Air exhaustion RPM	3,4	-	10~27 steps	1 step
7	1	View master setting/ checking (F3F4 line Indoor unit master)	Indoor unit View master setting/checking	123456	-	address	-
	2		ERV unit View master setting/ checking	123456	-	address	-
	3	Mode master indoor unit setting/ checking (F1F2 line Indoor unit master) 3)*	Mode master indoor unit checking	123456	-	address	-
	4		Mode master indoor unit setting	1	-	0-No use, 1-Use, 2-Release	-
8	1	Status of Automatic Air-Volume setting		1	0	0 – OFF (Disabled or Cancelled) 1 – Completion 2 – Running Automatic Air-Volume	-
	2	Automatic Air-Volume Operation		1	0	0 – Disable, 1 – Enable	-
	3	Automatic Air-Volume Voltage Setting		1	2	1~3 steps (2 - Default) For the specific voltage of model, please refer to the installation manual of each product.	-
0	1	Reset	Factory setting	1	0	0-No use, 1-Reset	-
	2		Power Master Reset 4)*	1	0	0-No use, 1-Reset	-
	3		Addressing Reset	1	0	0-No use, 1-Reset	-

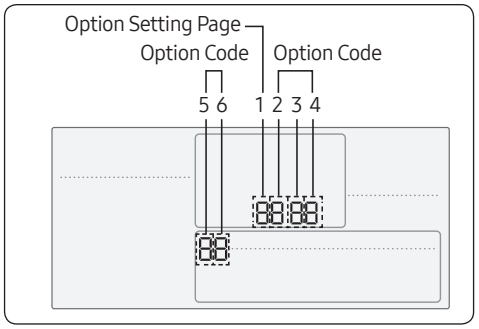
Note

- 'NONE' will be displayed if the indoor unit does not support the function.
  In some cases, the setting may not possible or it may be not applied though it is set on the unit.
- If communication initialization is needed after the setting, the system will reset automatically and communication will be initialized.

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

1)* The total option codes are 24 digits. You can set six digits at a time and it is distinguished by page number. Press [>] button to go to the next page.



- To set 24 digit option

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	✳	✳	✳	✳	✳
Page number					
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	✳	✳	✳	✳	✳
Page number					
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	✳	✳	✳	✳	✳
Page number					
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	✳	✳	✳	✳	✳
Page number					

※ Regardless of Celsius and Fahrenheit setting, service mode setting is available only with Celsius.

2)* If you enter Main menu #4, you must select the targeted indoor unit/ventilator (ERV) address and then select the sub menu.

3)* Setting is available when there is only 1 indoor unit connection and while the indoor unit operation is not operating.

4)* Power Master Reset is a setting needed to supply optimized power to wired remote controller when multiple indoor units are connected to wired remote controller in a group.

Note

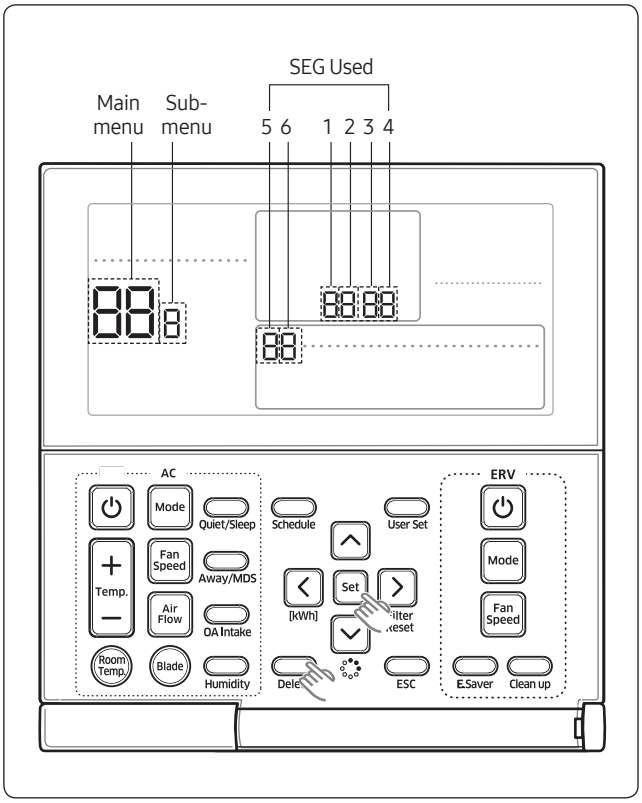
- Address is displayed in hexadecimal. Please refer to the following table.

Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal
00	0	10	16	20	32	30	48	40	64
01	1	11	17	21	33	31	49	41	65
02	2	12	18	22	34	32	50	42	66
03	3	13	19	23	35	33	51	43	67
04	4	14	20	24	36	34	52	44	68
05	5	15	21	25	37	35	53	45	69
06	6	16	22	26	38	36	54	46	70
07	7	17	23	27	39	37	55	47	71
08	8	18	24	28	40	38	56	48	72
09	9	19	25	29	41	39	57	49	73
0A	10	1A	26	2A	42	3A	58	4A	74
0B	11	1B	27	2B	43	3B	59	4B	75
0C	12	1C	28	2C	44	3C	60	4C	76
0D	13	1D	29	2D	45	3D	61	4D	77
0E	14	1E	30	2E	46	3E	62	4E	78
0F	15	1F	31	2F	47	3F	63	4F	79

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

How to set the service mode



1 If you want to use the various additional functions for your Wired Remote Controller, press the [Set] and [Esc] buttons at the same time for more than three seconds. You will enter the additional function settings, and the [main menu] will be displayed.

2 Refer to the list of additional functions for your Wired Remote Controller on the next page, and select the desired menu.

- **a** Using the [∧]/[∨] buttons, select a main menu number and press the [>] button to enter the sub-menu setting screen.
- **b** Using the [∧]/[∨] buttons, select a sub-menu number and press the [>] button to enter the data setting screen.
- **c** When you enter the setting stage, the current setting will be displayed.
- **d** Refer to the chart for data setting.
- **e** Using the [∧]/[∨] buttons, select the settings. Press the [>] button to move to the next setting.
- **f** Press the [Set] button to save the settings and exit to the sub-menu setting screen.
- **g** Press the [Esc] button to exit to normal mode.

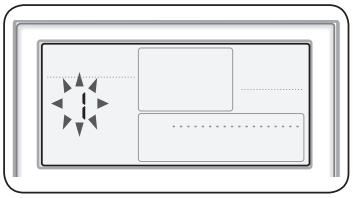
Note

- While setting the data, you can use the [∧]/[∨] buttons to set the range of SEG.
- While configuring the setting, press the [Esc] button to exit to the setting sub-menu without saving your changes.

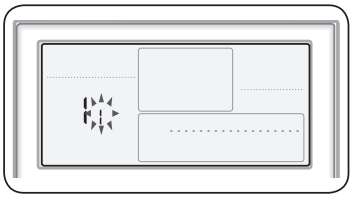
()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

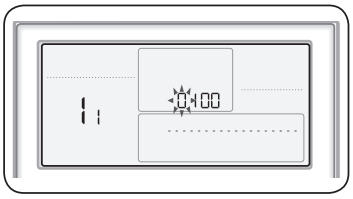
Example method of setting wired remote controller option



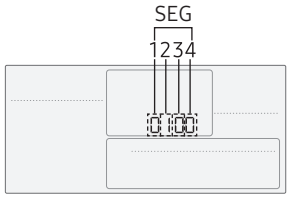
1 Press the [Set] and [ESC] buttons at the same time for more than 3 seconds.
When(Main menu) is displayed press the [∧]/[∨] button to select no.1.



2 Press the [>] button to select the number you will set.
Press the [∧]/[∨] button and select no.1

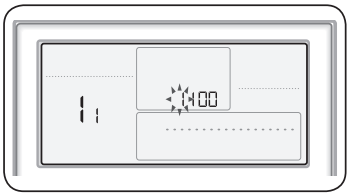


3 Press the [>] button to enter the data setting stage.
When you enter the setting stage, the current setting value will be displayed.



SEG1: Heat pump indoor unit
SEG2: Use wireless remote controller
SEG3: Master wired remote controller
SEG4: Temperature display – Celsius (°C)

‹Example of data setting stage display›



4 Press the [<]/[>] button to select the desired Data1.
- Press the [∧]/[∨] button to select no.1.
- The wired remote controller option is set from both cooling and heating to cooling only.

5 Press [Set] button to complete the option setting.
Save the setting value and exit to sub menu.

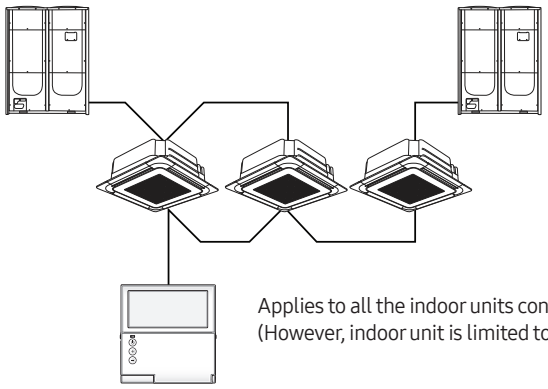
6 Press [Esc] button to exit to normal mode.

()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

Built-in temperature sensor of wired remote controller

Temperature control with built-in temperature sensor



Applies to all the indoor units connected within a group.
(However, indoor unit is limited to DVM S series)

Note

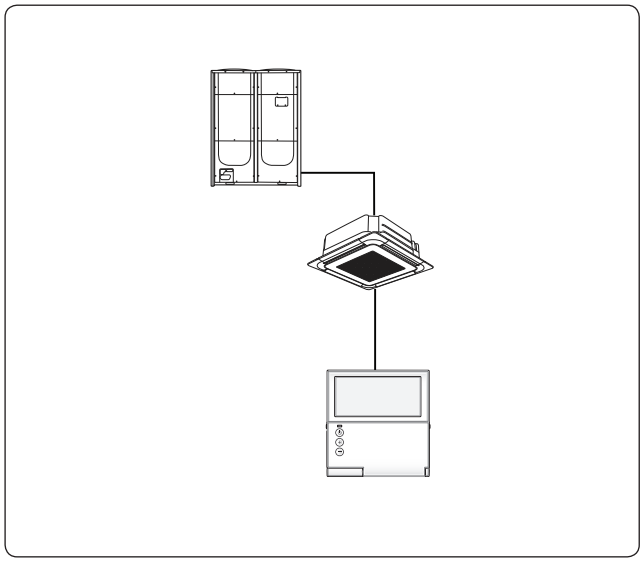
- Check the setting of the wired remote controller built-in sensor from the service menu.

Main menu	Sub menu	Function		Used SEG	Factory setting	Description	Unit
1	1	Wireless remote controller Option setting/ checking (1)	Cooling/Heating selection	1	0	0-Cooling/Heating, 1-Cooling only	-
			Use of wireless remote controller	2	1	0-No use, 1-Use	-
			MAIN/SUB wired remote controller	3	0	0-MAIN, 1-SUB	-
			Temperature unit	4	0	0-Celsius(°C), 1-Fahrenheit(°F)	-
	2	Wireless remote controller Option setting/ checking (2)	Temperature sensor selection	1	0	0-Indoor unit, 1-Wired remote controller	-
			Use of average temperature	2	0	0-No use, 1-Use	-
			Use of Auto mode	3	1	0-No use, 1-Use	-
			Temperature display	4	0	0-Set temperature, 1-Room temperature	-
			AC On/Off button function	5	0	0-Indoor unit+ERV, 1-Indoor unit only, 2-ERV only	-

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Heating mode temperature compensation



Indoor unit INSTALL option setting
(Refer to indoor unit intallation manual)

SEG	Function	Value
21	Heating setting temperature compensation	1 – 2°C(°F) 2 - 5°C(°F)

Note

- When built-in sensor of the wired remote controller is used, heating mode temperature compensation (+2°C or +5°C) will be reset to 0°C.

Note

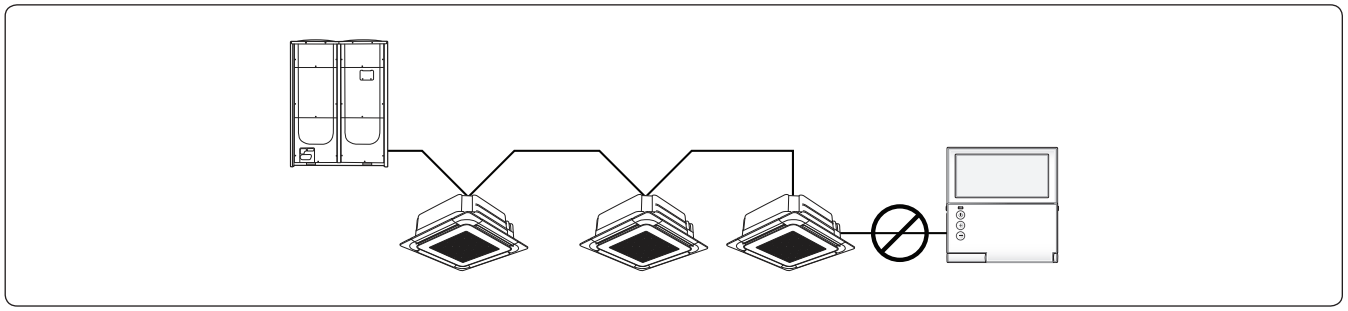
- If there is no option switch on the indoor unit PCB, check the setting of the heating temperature compensation from the service menu.

Main menu	Sub menu	Function		Used SEG	Factory setting	Description	Unit
3	6	Indoor unit option checking(2)	Use of external control	1	-	0-No use, 1-Use	-
			Use RPM compensation	2	-	0-No use, 1-Use	-
			Filter time	3	-	0-2000 hours, 1-1000 hours	-
			Heating temperature compensation	4	-	0-2°C(°F), 1-5°C(°F)	-
			EEV stop step in heating	5	-	0-0/80 step,1-80 step	-

()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

When communication error or power failure occurs while using built-in temperature sensor



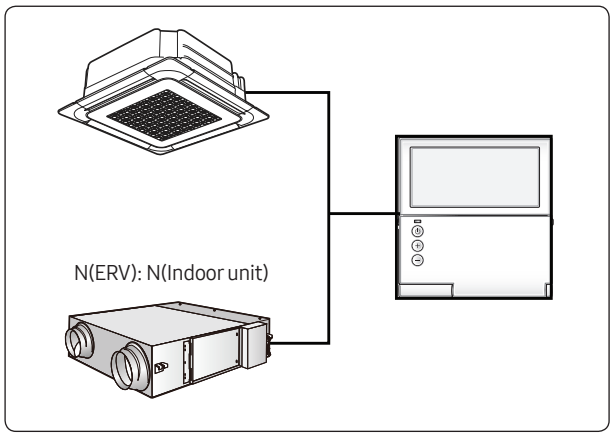
When communication error occurs over 3 minutes,

- Indoor unit ignores the built-in temperature sensor and use indoor unit temperature sensor.
- Indoor unit applies the heating setting temperature compensation.(+2°C,+5°C)

When communication resumes,

- Built-in temperature use is recovered.
- Setting must be done again to use the temperature compensation.

Energy saving operation mode



Note

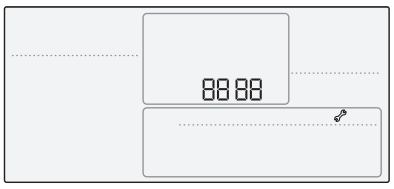
- Energy saving operation mode is available only when there is at least one indoor unit and ERV is connected.

- By comparing indoor room temperature, setting temperature and outdoor temperature, wired remote controller changes ERV operation mode and fan speed to minimize unnecessary outdoor unit operation.
- Energy saving operation is not available when ERV is not connected.
- Energy saving operation is not available when 'Centralized control' is set.
- Energy saving operation will not be executed when ERV is set to Outing mode or set in external interlocking mode.
- Temperature measurement is set as indoor unit temperature sensor as default, and it can be changed depending on the wired remote controller option setting.
- Basically room temperature value means indoor unit's sensor. But it can be changed depending on option setting. (External room sensor or Built-in sensor of wired remote controller)

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Display

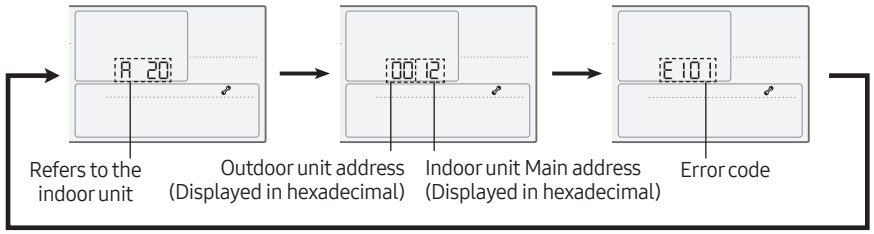


LCD Display

Error display

Error codes for the Wired Remote Controller and the product connected to your Wired Remote Controller will be displayed in the LCD display.

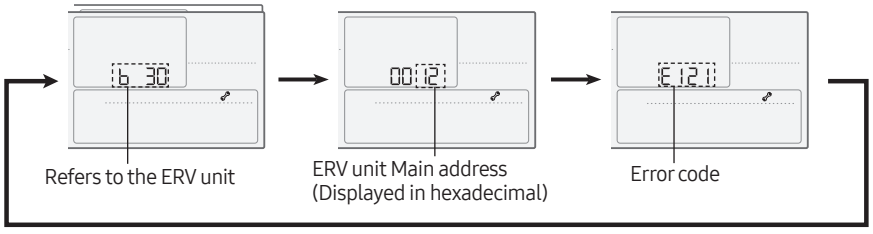
Example: Error101 occurred in indoor unit with main address no.12(decimal numbers)



- When an Error Occurs in Your Indoor/Outdoor Units (Product Group Display: A)

  The product address for the error will be displayed, followed by the error code.
  Example : Error101 occurs for Indoor Unit No. 200012.

Example: Error121 occurred in ventilator(ERV) with main address no. 12(decimal numbers)



- When an Error Occurs in Your Ventilator(ERV) (Product Group Display: B)

  The product address for the error will be displayed, followed by the error code.
  Example : Error121 has occurred at ventilator(ERV) No. 300012.

Example: Error 601 has occurred at your Wired Remote Controller.

- When an Error Occurs in Your Wired Remote Controller

  Only an error code will be displayed. (No address will be displayed.)
  Example : Error 601 has occurred at your Wired Remote Controller.

()* is used in Turkey.

Wired Remote Controller› MWR-WE11N (MWR-WE11RN)*

Wired remote controller error codes

Display	Description
601	Communication error between wired remote controller and indoor/ERV units after successful communication.
602	No communication between Master(Main) and Slave(Sub) wired remote controllers.
604	When tracking between wired remote controller and indoor unit/ventilator (ERV) is not complete for more than 3 minutes (Including communication error between indoor units and outdoor units)
618	Over16 indoor/ERV indoor units installed.
627	Two or more wired remote controllers set as Slave(SUB).
653	Temperature sensor Open/Short error.
654	EEPROM error

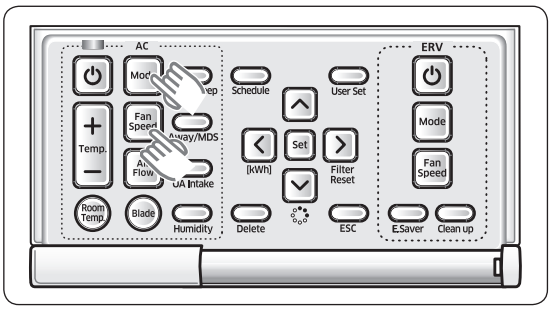
⚠ Caution

- For the error codes for your indoor/outdoor units and ventilator(ERV), refer to the installation manual of each device.

Note

Setting/Cancelling the Mode master indoor unit

- Mode master indoor unit setting is simply selecting an indoor unit that will become standard among many indoor units to prevent mixed operation (which one or more indoor units operating in different operation mode).
  - Setting: Connect just 1 indoor unit and stop the operation. Then press and hold the **Mode** button for 5 seconds to set the indoor unit as 'Mode master indoor unit'
  - Cancelling: Connect just 1 indoor unit and stop the operation. Then press and hold the **Fan speed** button for 5 seconds to cancel the 'Mode master indoor unit' setting.



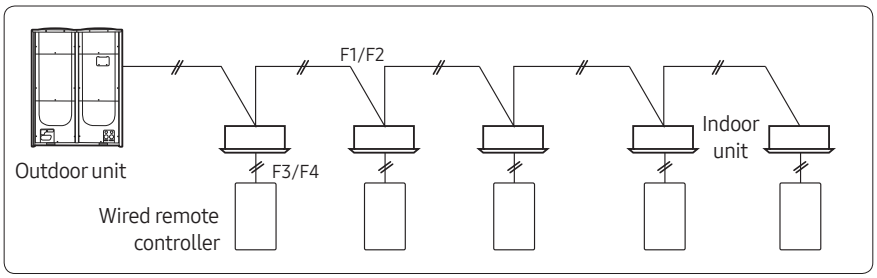
()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

Communication diagram

Individual control (1)

Control 1 indoor unit with 1 wired remote controller



Control

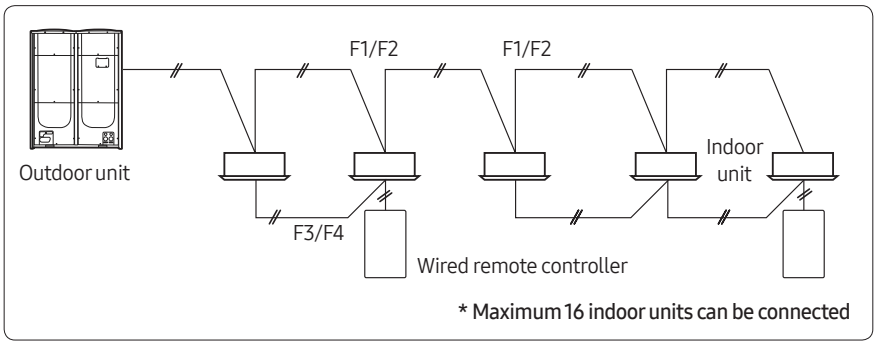
- All connected indoor units

Display

- Operation status of the connected indoor unit

Group control (1)

Control multiple indoor units with 1 wired remote controller



Control

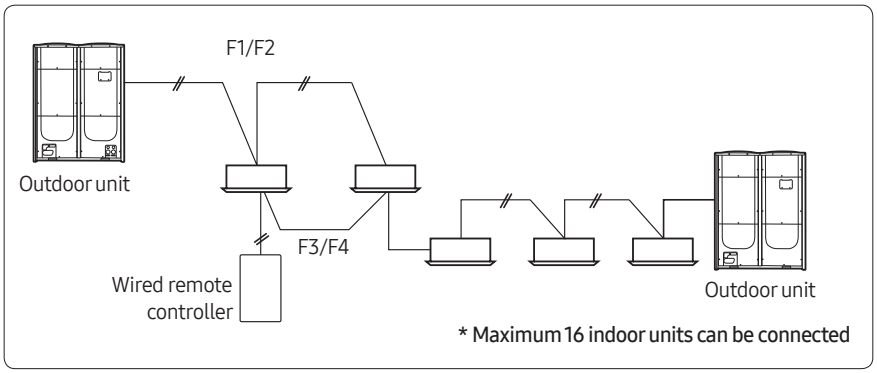
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

Group control (2)

Control multiple indoor units connected to different outdoor units with 1 wired remote controller



Control

- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

⚠ Caution

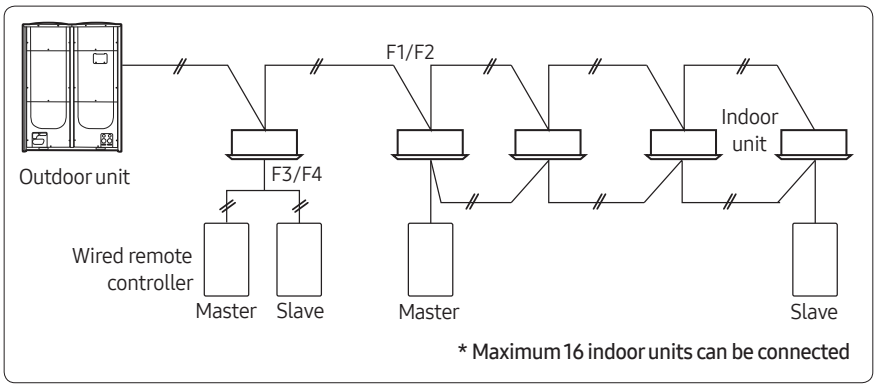
- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.

()* is used in Turkey.

Wired Remote Controller › MWR-WE11N (MWR-WE11RN)*

Group control (3)

Control 1 or multiple indoor units with 2 wired remote controllers



Control

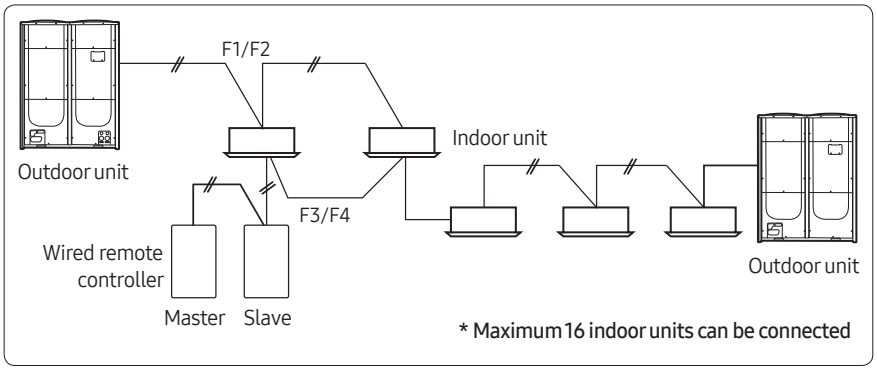
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

Group control (4)

Control multiple indoor units connected to different outdoor units with 2 wired remote controller



Control

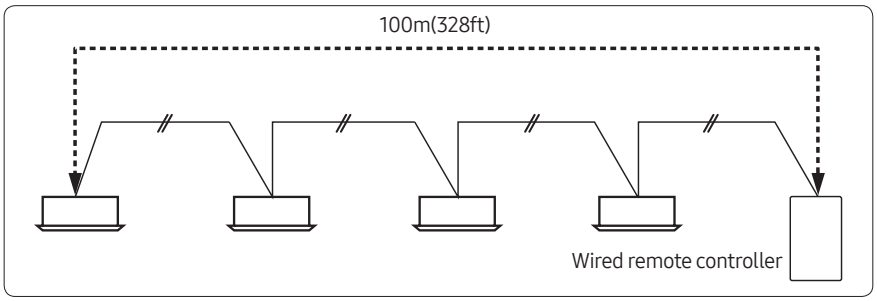
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

⚠ Caution

- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.

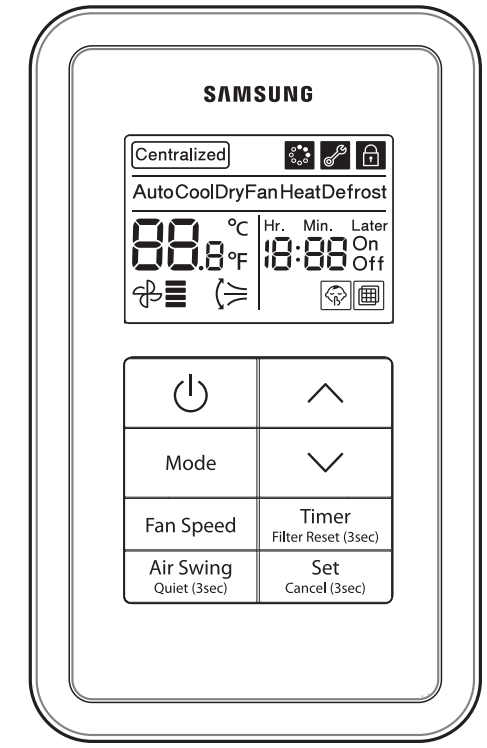


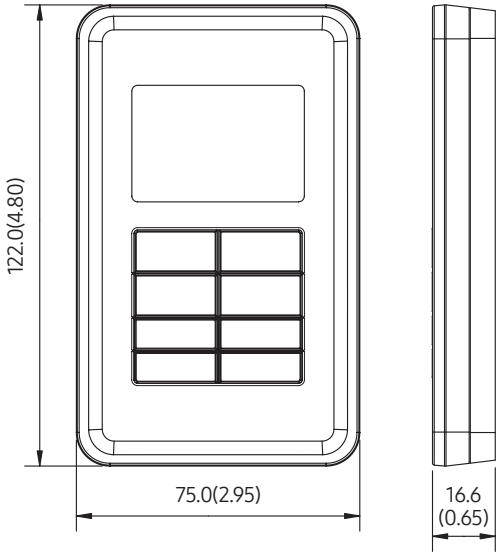
- Max. distance between the farthest indoor unit and wired remote controller: 100m(328ft)

()* is used in Turkey.

Wired remote controller

MWR-SH00N





Unit: mm(inch)

Features

- Simplified wired remote controller
- AC operation ON/OFF control
- Fan speed control
- Setting operation mode and temperature
- Reset filter cleaning alert indicator
- Adjust air flow direction
- Operation on/off timer function

Product specification

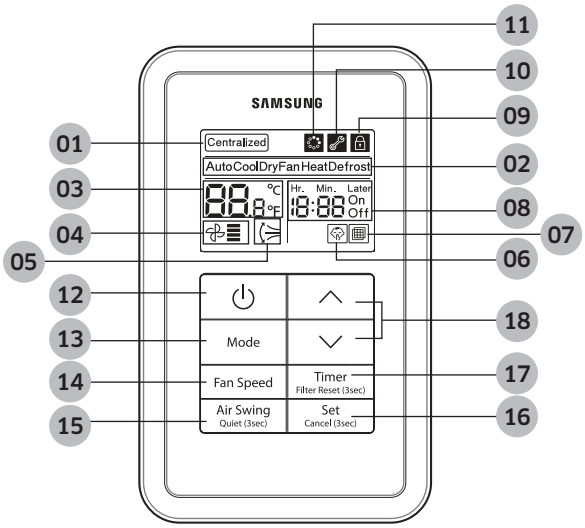
Power supply	DC 12V
Power consumption	1.5 W
Operating temperature range	0°C~40°C (32°F~104°F)
Operating humidity range	30 % RH~90 % RH
Communication	2-wire PLC
Maximum length of connection	100 m (328ft)
Maximum number of controllable devices	16 indoor units

Compatible product

Indoor unit	AM✶✶✶✶N✶✶✶✶Model

Wired Remote Controller › MWR-SH00N

Description of parts

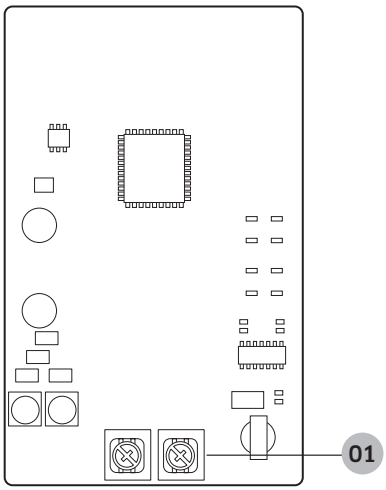


No.	Name	Description
01	Centralized control indicator	Indicator will be on when remote controller usage restriction is set. (Devices that support centralized control: OnOff controller, DMS2.5, Touch centralized controller etc.)
02	Operation mode indicator	Indicates current operation mode when the indoor unit is operating (Cool/Auto/Dry/Fan/Heat)
03	Set temperature indicator	Indicates the set temperature when the indoor unit turns on.
04	Fan speed indicator	Indicates the fan speed settings.
05	Air swing indicator	Indicates when vertical air swing is on.
06	Quiet mode indicator	Indicates when quiet mode is on.
07	Filter cleaning indicator	Indicates when preset filter cleaning period is passed.
08	Timer indicator	On: Indicates when On timer is set Off: Indicates when Off timer is set Hr. Min. Later: • Timer mode: Displays the set time for On/Off timer (Min. 30 minutes ~ Max. 18 hours) • General mode: Displays remaining time before Timer function will execute
09	Lock/Restricted indicator	This icon will be displayed when button is locked or when unavailable function (function which indoor unit does not support) is selected • Icon On: All buttons are locked • Icon blinks for 3 seconds: When partially locked button is pressed or unavailable function (function which indoor unit does not support) is selected
10	Inspection indicator	Indicates that inspection is required.
11	SPi indicator	Indicates that SPi or other cleaning function of the indoor unit is on.

Wired Remote Controller › MWR-SH00N

No.	Name	Description
12	On/Off button	Press this button to turn on/off the indoor unit.
13	Mode button	Press this button to select the desired operation mode. (Auto → Cool → Dry → Fan → Heat)
14	Fan speed button	Press this button to select one of the fan speeds from Auto, Low, Medium, High, Turbo. Available Fan Speed may differ depending on the operation mode of the indoor unit. • Low → Medium → High → Turbo → Auto
15	Air swing button	Press this button to turn on/off the vertical air swing when the indoor unit supports vertical air swing movement.
16	Set/Cancel button	This button can be used only for Timer, User mode, Service mode. • Short press: Set (Save) • Press and hold for 3 seconds: Cancel
17	Timer button/ Filter reset button	• Short press: You can set the On/Off timer. • Press and hold for 3 seconds: Resets the filter cleaning alert indicator.
18	Temperature adjustment/ Time adjustment button	• General mode: Press this button to increase/decrease the set temperature by preset unit. – Short press: adjust the temperature by 1°C(°F) or 0.5°C(°F) or 0.1°C(°F) depending on the setting. – Press and hold: adjust the temperature by 1°C(°F) every 0.5 second • Timer mode: Press this button to increase/decrease the set time. – Up to 3 hours: Increase/decrease by 30 minute unit – Over 3 hours: Increase/decrease by 1 hour unit

PCB

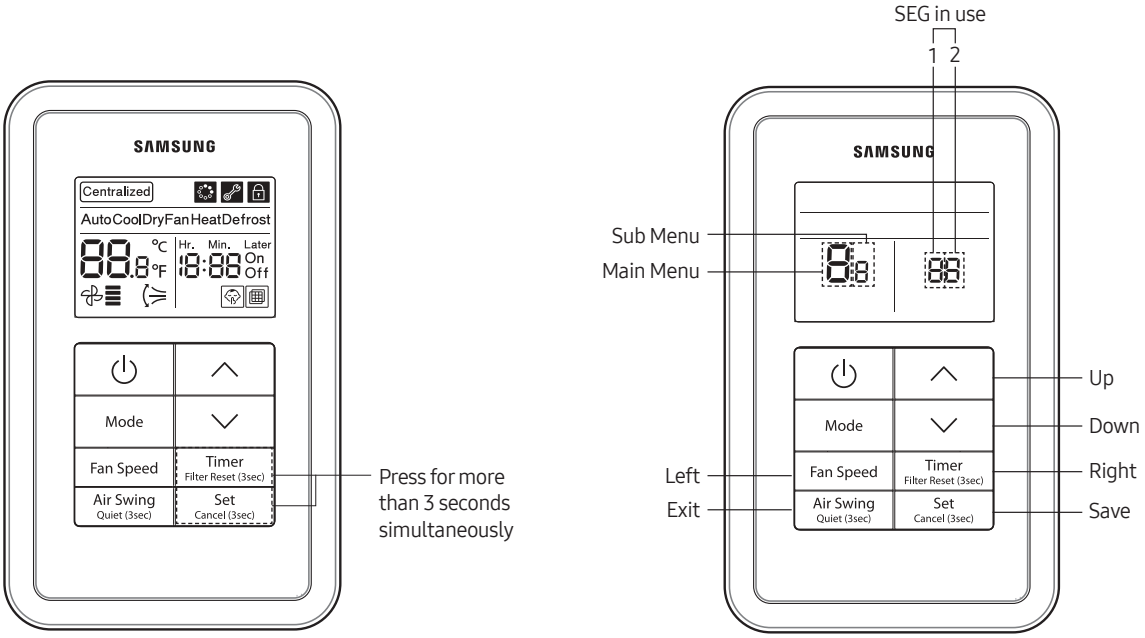


No.	Name	Description
01	Power/communication connection terminal	Connect to indoor unit (F3/F4)

Option function

User setting mode

How to set

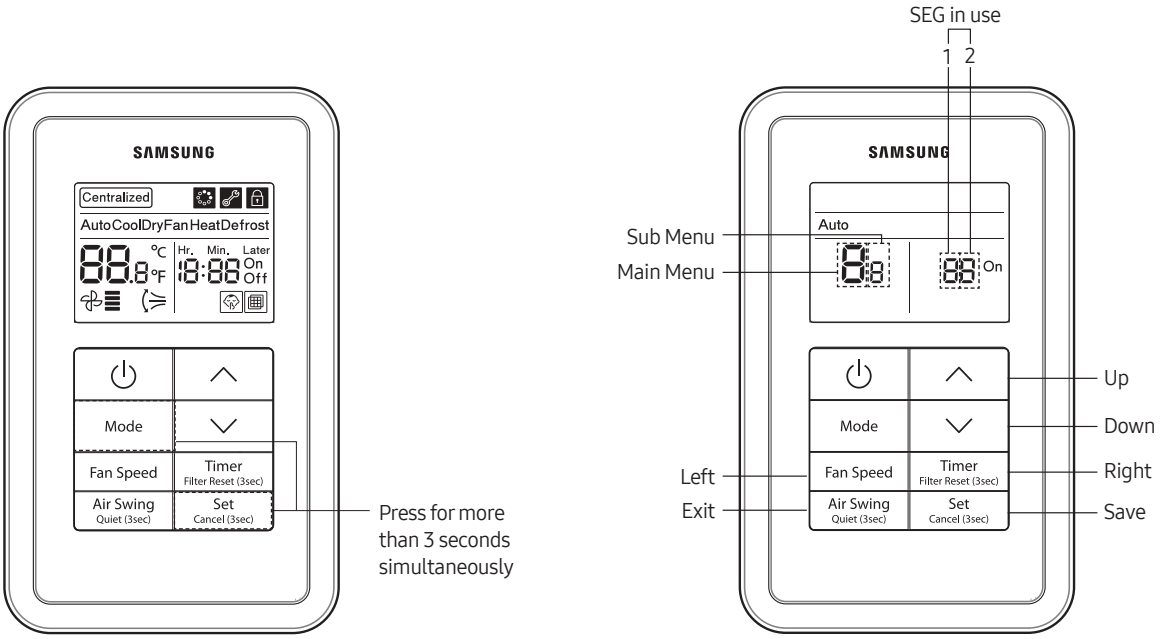


Main menu	Sub menu	Function		Default	Page in use	Range	Save
0	1	Reset User mode to default value		0	1	0 - Disabled,1 - Reset	none
1	1	Lock all		0	1	0 - Unlock, 1 - Lock	o
	2	Partially lock buttons	Lock On/Off button	0	1	0 - Unlock, 1 - Lock	o
	3		Lock Mode button	0	1	0 - Unlock, 1 - Lock	o
	4		Lock Temperature adjustment button	0	1	0 - Unlock, 1 - Lock	o
	5		Lock Fan speed button	0	1	0 - Unlock, 1 - Lock	o
	6		Lock Timer button	0	1	0 - Unlock, 1 - Lock	o
2	1	Temperature restriction	Lower temperature	16	1	16~30	o
	2		Upper temperature	30	1	16~30	o

Wired Remote Controller › MWR-SH00N

Service mode

How to set



- Page display

On	Page1	Page2	Page3	Page4	Page5	Off	Page6	Page7	Page8	Page9	Page10
	Auto	Cool	Dry	Fan	Heat		Auto	Cool	Dry	Fan	Heat

Main menu	Sub menu	Function		Default	Page in use	Range
0	1	Reset	Reset the option setting of the wired remote controller to dafault value	0	1	0 - Disabled, 1 - Reset
	2		Reset wired remote controller to factory default	0	1	0 - Disabled, 1 - Reset
	3		Power Master Reset	0	1	0 - Disabled, 1 - Reset
	4		Addressing Reset	0	1	0 - Disabled, 1 - Reset
1	1	Wired remote controller information	Check the number of connected indoor units	0	1	0~16
	2		Check the number of connected ERV	0	1	0~16
	3		Check the MICOM code of wired remote controller	none	1~3	MICOM code
	4		Check the software version of the wired remote controller	none	1~3	Updated date

Wired Remote Controller› MWR-SH00N

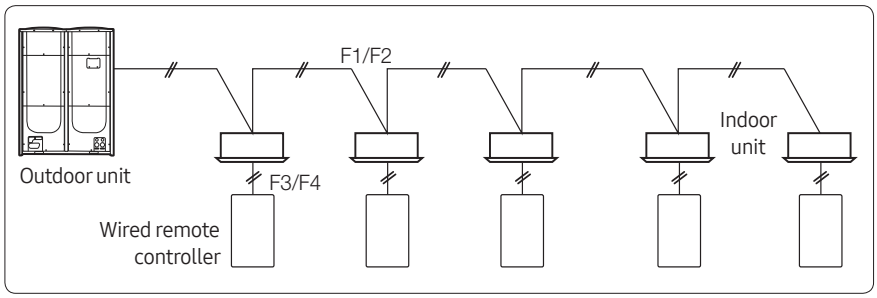
Main menu	Sub menu	Function		Default	Page in use	Range
2	1	Address/ option setting	Target indoor unit address setting	View Master indoor unit	1~3	Select address from one of the connected indoor unit Display example) Page 1: 20 (Refers to indoor unit) Page 2: 00 (Outdoor unit address) Page 3: 04 (Main address)
	2		Check/Set main address	Main address of Target indoor unit	1	Main address (00H~4FH, Hexadecimal digits)
	3		Check/Set RMC address	Main address of Target indoor unit	1	RMC(1): 0~F/ RMC(2): 0~F (Hexadecimal number)[1]*
	4		Check/set the product option	Product option of target indoor unit	1~10	Option code
	5		Check/Set installation option (1)	Installation option of target indoor unit	1~10	Option code
	6		Check/Set installation option (2)	Installation option of target indoor unit (2)	1~10	Option code
3	1	Check/Set view master	Check/Set indoor unit view master	View Master indoor unit	1~3	Select address from one of the connected indoor unit (hexadecimal number)
	2		No function	-	1~3	-
4	1	Check/Set Mode master indoor unit	Check the address of the mode Master indoor unit	none	1~3	Address of the mode Master indoor units
	2		Setting the mode Master indoor unit [2]*	none	1	0- Not set, 1-Set, 2-Cancel
5	1	Check/Set option function of the wired remote controller	Set indoor unit for 'coolilng and heating'/'cooling only'	0	1	0- Cooling and heating, 1-Cooling only
	2		Setting wireless remote controller usage restriction	1	1	0 - Disable, 1 - Enable
	3		Setting Master/Slave wired remote controller	0	1	0-Master, 1-Slave
	4		Setting auto operation usage	1	1	0 - Disable, 1 - Enable
	5		Temperature display Celsius(°C)/ Fahrenheit(°F)	0	1	0- Celsius (°C), 1-Fahrenheit (°F)
	6		Set unit for desired temperature (0,1,2) (Only available when temperature is displayed in Celsius (°C)	0	1	0-1°C, 1-0.5°C, 2-0.1°C

1)* When RMC(1) is set as F, RCM(2) can be set up to E only.

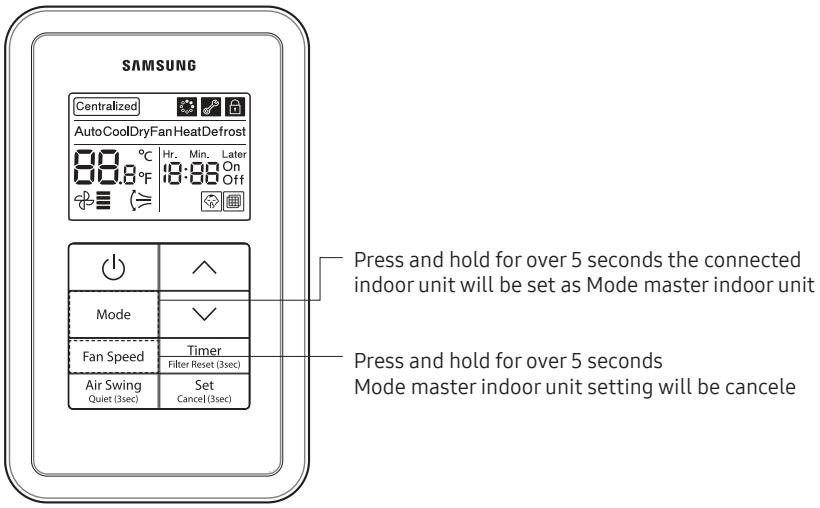
Wired Remote Controller› MWR-SH00N

2)* Mode master indoor unit: The indoor unit which can decide the operation mode. Other indoor unit will follow mode master indoor unit's operation mode.

Setting mode master indoor unit

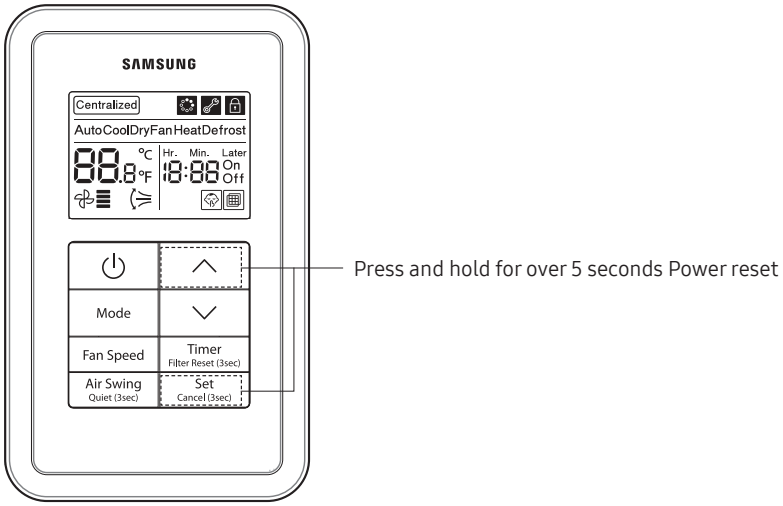


- Only when the wired remote controller is connected to an indoor unit directly (1:1 connection), you can set the mode master indoor unit that sets the operation mode of the outdoor unit.



System reset

Reset the power of the simplified wired remote controller

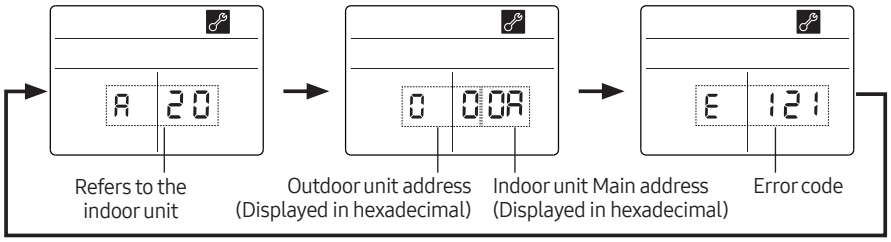


Display

Error display

Error codes of for the simplified wired remote controller and the product connected to it will be displayed on the LCD display.

Example: Error121 occurs for indoor unit No. 10 (Decimal digits)



- When an error occurs in your indoor/outdoor units (Product group display: A20)

  Address of the product with error code and address will be displayed alternately.

Example: Error 601 has occurred on simplified remote controller

- When an error occurs in your simplified wired remote controller

  Only an error code will be displayed. (No address will be displayed)

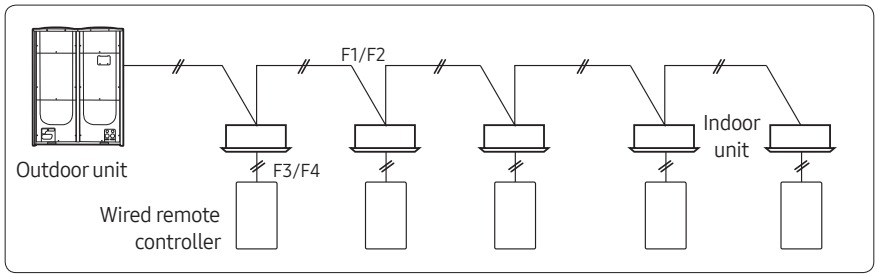
No.	Error code	Description of the error	Remarks
1	601	Communication error between wired remote controller ↔ Indoor unit	-
2	602	Communication error between Master ↔ Slave wired remote controller • Error is only detected on slave wired remote controller	-
3	604	Communication tracking error between wired remote controller ↔ Indoor unit	-
4	618	Exceeded maximum number of units (16 units)	-
5	627	Two or more wired remote controllers are set as Slave	-
6	654	Memory (external ROM) read/write error • This error is detected only during power reset. If error occurs on memory after power has turned on, it will not effect on operation of the wire remote controller display and therefore error code will not be displayed.	-

Wired Remote Controller › MWR-SH00N

Communication diagram

Individual control (1)

Control 1 indoor unit with 1 wired remote controller



Control

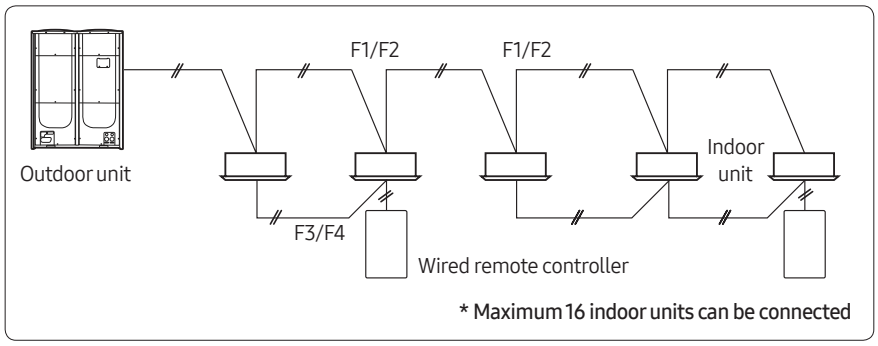
- All connected indoor units

Display

- Operation status of the connected indoor unit

Group control (1)

Control multiple indoor units with 1 wired remote controller



Control

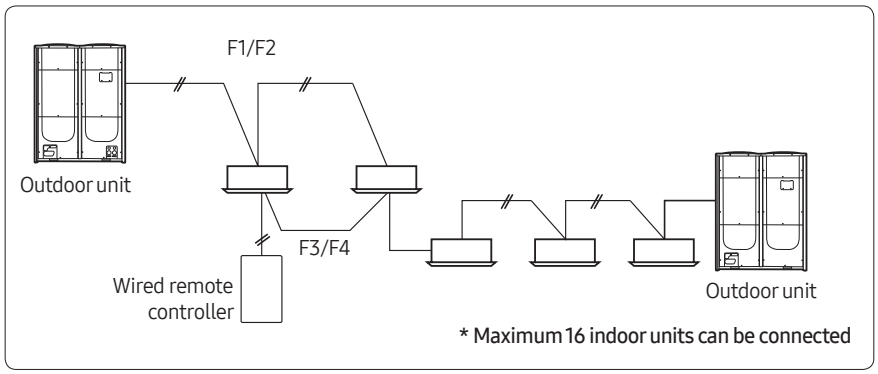
- All connected indoor units

Display

- Priority 1. Display the status of view master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

Group control (2)

Control multiple indoor units connected to different outdoor units with 1 wired remote controller



Control

- All connected indoor units

Display

- Priority 1. Display the status of view master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

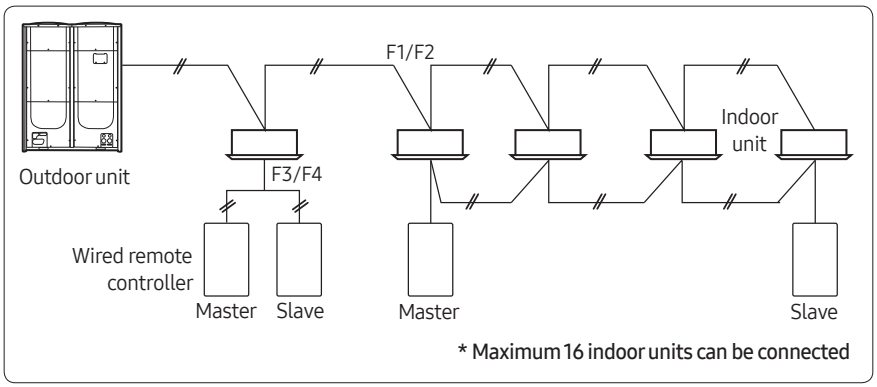
⚠ Caution

- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.

Wired Remote Controller › MWR-SH00N

Group control (3)

Control 1 or multiple indoor units with 2 wired remote controllers



Control

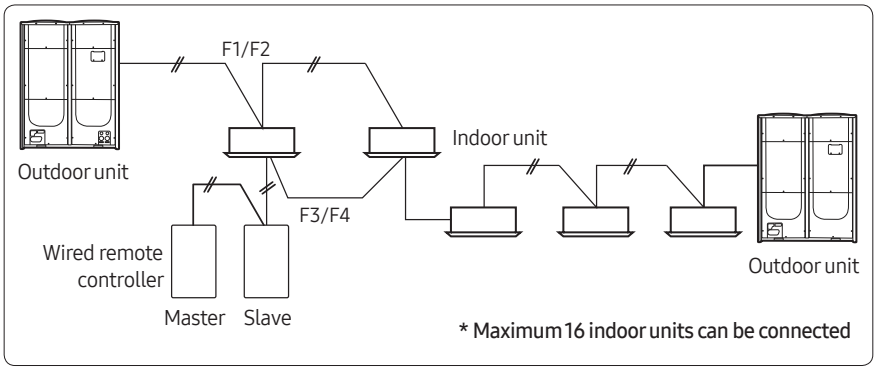
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

Group control (4)

Control multiple indoor units connected to different outdoor units with 2 wired remote controller



Control

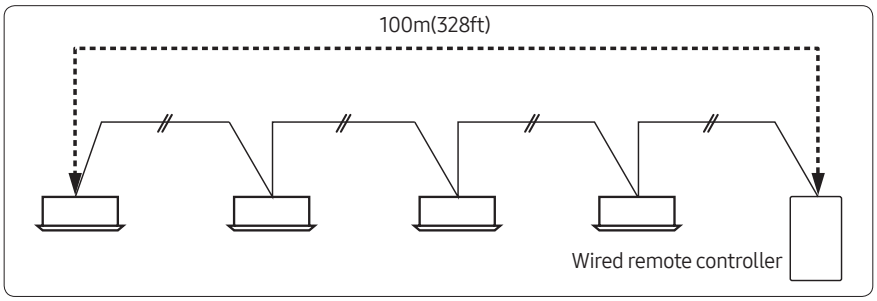
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

⚠ Caution

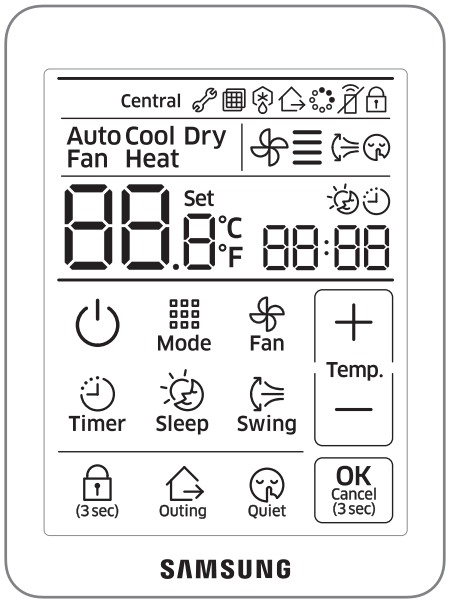
- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.

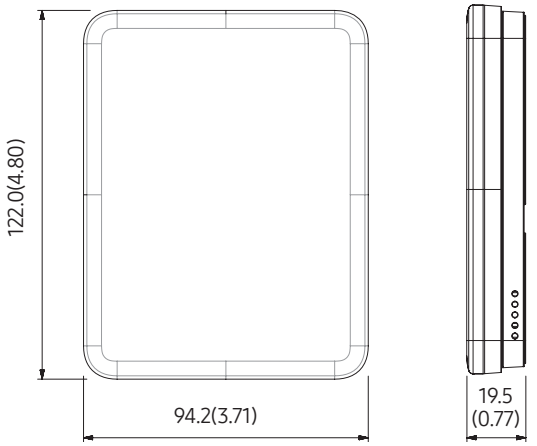


- Max. distance between the farthest indoor unit and wired remote controller: 100m(328ft)

Wired remote controller

MWR-SH10N (MWR-SH10RN)*





Unit: mm(inch)

Features

- Touch screen wired remote controller
- IR receiver is included
- Quiet, Sleep, Outing mode
- AC operation ON/OFF control
- Fan speed control
- Setting operation mode and temperature
- Reset filter cleaning alert indicator
- Operation on/off timer function

Product specification

Power supply	DC 12V
Power consumption	1.5 W
Operating temperature range	0°C~40°C (32°F~104°F)
Operating humidity range	30 % RH~90 % RH
Communication	2-wire PLC
Maximum length of connection	100 m (328ft)
Maximum number of controllable devices	16 indoor units

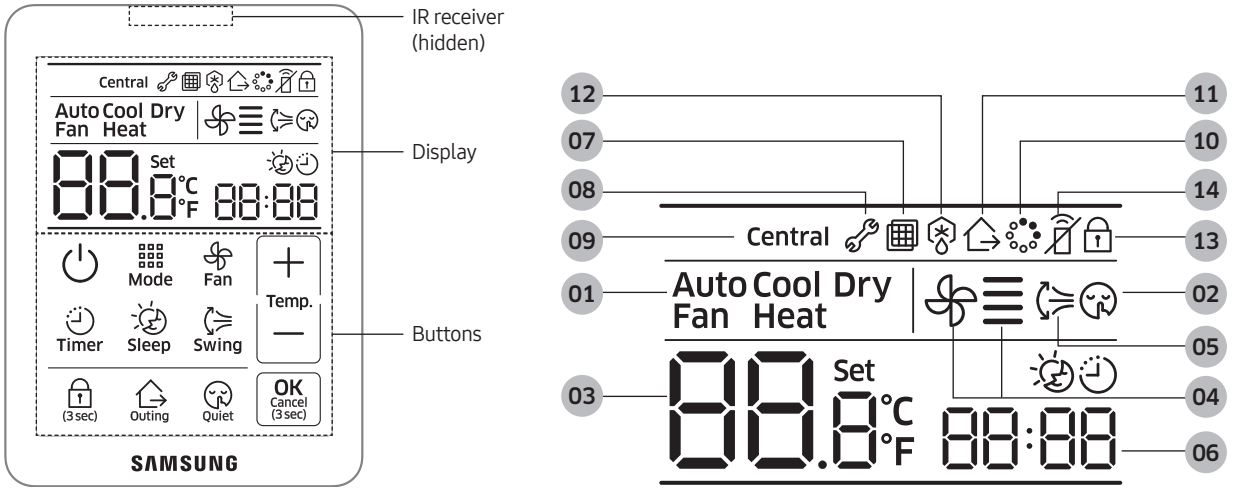
Compatible product

Indoor unit	AM✳✳✳✳N✳✳✳✳✳✳Model

()* is used in Turkey.

Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

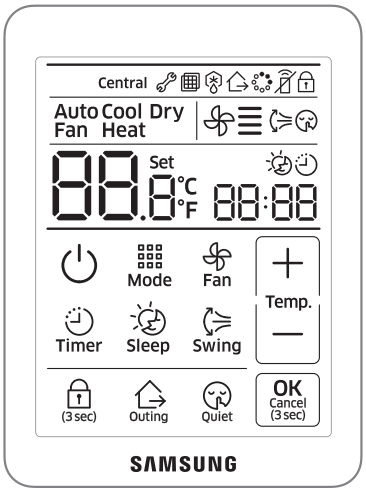
Description of parts

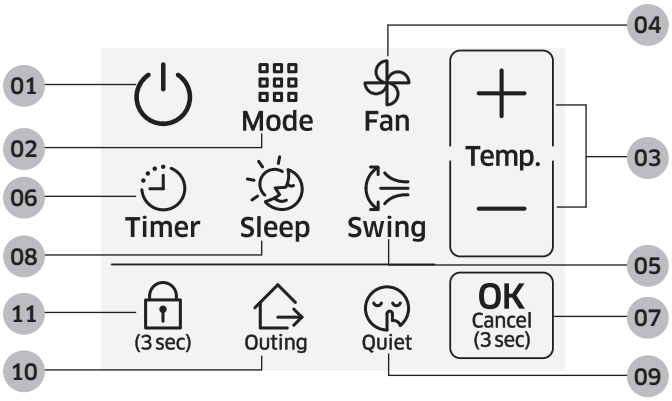


No.	Name	Description
01	Operation mode indicator	Indicates current operation mode when the indoor unit is operating (Cool/Auto/Fan/Dry/Heat)
02	Quiet mode indicator	Indicates when Sleep mode is ON.
03	Temperature indicator	Indicates Indoor temperature/Set temperature
04	Fan speed indicator	Displays fan speed
05	Air swing direction indicator	Displays air swing (Up/Down)
06	Timer indicator	Displays ON/OFF time (scheduled time)
07	Filter cleaning indicator	Displays filter cleaning (filter cleaning period)
08	Inspection indicator	Displays check
09	Centralized control indicator	Indicator will be on when remote controller usage restriction is set. (Devices that support centralized control: OnOff controller, DMS, Touch centralized controller, etc.)
10	Virus doctor indicator	Displays when virus doctor is ON.
11	Outing mode indicator	Displays when outing mode is ON.
12	Defrost operation indicator	Displays defrost operation.
13	Locking/invalid operation indicator	Displays partial locking/all locking/invalid operation
14	IR receiver indicator	Displays IR receiver for wireless remote controller (Default: disuse, indication on)

()* is used in Turkey.

Wired Remote Controller› MWR-SH10N (MWR-SH10RN)*





No.	Name	Description
01	ON/OFF button	Turn the air conditioner power on/off
02	Mode button	Select a desired air conditioner operation
03	Temperature setting button	Set a desired temperature and adjust the time
04	Fan speed button	Change the air conditioner's fan speed
05	Air swing button	Select the air flow direction of the air conditioner
06	Timer button	Select the timer function
07	OK/Cancel button	Confirm or cancel (by pressing and holding the button for 3 seconds)
08	Sleep button	Select sleep operation for the air conditioner
09	Quiet button	Select quiet operation for the air conditioner
10	Outing button	Select outing operation for the air conditioner
11	Lock button	Lock the wired remote controller

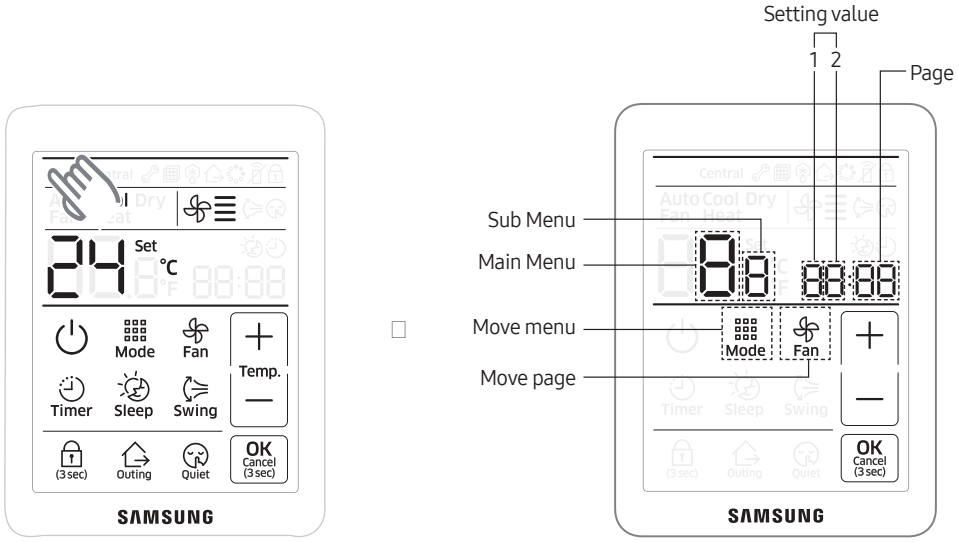
()* is used in Turkey.

Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Option function

User setting mode

How to set



1 If you want to use the various additional user functions for your wired remote controller, press the top left corner (hidden button) of the display for more than 3 seconds

- You will enter the additional function settings, and the main menu will be displayed

2 Refer to the list of additional user functions for your wired remote controller on the next page, and select the desired menu

- Using the [+]/[–] buttons, select a main menu number and press the [Mode] button to enter the sub menu setting screen
- Using the [+]/[–] buttons, select a sub menu number and press the [Mode] button to enter data setting screen
- Using the [+]/[–] buttons, select the settings
- Press the [Fan] button to select page
- Press the [OK] button to save the current settings The [OK] button is invalid on the main menu or sub menu setting screen
- Press the [Cancel] button for more than 3 seconds to exit to normal mode without saving settings

Main menu	Sub menu	Function description		Setting value		Page	Save location
				Value	Factory default		
2	1	Temperature Limit	Lower limit	8 ~ 30 °C (47 ~ 86 °F)	8(47)	01	Wired remote controller
	2		Upper limit	8 ~ 30 °C (47 ~ 86 °F)	30(86)	01	Wired remote controller
	3	Set Outing Temperature	Cooling desire temperature on outing function	25 ~ 30 °C (77 ~ 86 °F)	27(81)	01	Wired remote controller
	4		Heating desire temperature on outing function	16 ~ 22 °C (61 ~ 72 °F)	16(61)	01	Wired remote controller

()* is used in Turkey.

Wired Remote Controller› MWR-SH10N (MWR-SH10RN)*

Main menu	Sub menu	Function description		Setting value		Page	Save location
				Value	Factory default		
3	1	Lock of all buttons		0-Unlock, 1-Lock	0	1	Wired remote controller
	2	Partial Button Lock 1	Lock of operation ON/OFF button	0-Unlock, 1-Lock	0	1	Wired remote controller
			Lock of temperature setting buttons	0-Unlock, 1-Lock	0	2	Wired remote controller
			Lock of fan speed button	0-Unlock, 1-Lock	0	3	Wired remote controller
	3	Partial Button Lock 2	Lock of ON/OFF timer function button	0-Unlock, 1-Lock	0	1	Wired remote controller
			Lock of Swing function button	0-Unlock, 1-Lock	0	2	Wired remote controller
			Lock of Sleep function button	0-Unlock, 1-Lock	0	3	Wired remote controller
			Lock of Quiet function button	0-Unlock, 1-Lock	0	4	Wired remote controller
			Lock of Outing function button	0-Unlock, 1-Lock	0	5	Wired remote controller
	4	Operation Mode Partial Button Lock	Lock of operation mode button	0-Unlock, 1-Lock	0	1	Wired remote controller
			Hide of auto mode	0-Unlock, 1-Lock	0	2	Wired remote controller
			Hide of cool mode	0-Unlock, 1-Lock	0	3	Wired remote controller
			Hide of dry mode	0-Unlock, 1-Lock	0	4	Wired remote controller
			Hide of fan mode	0-Unlock, 1-Lock	0	5	Wired remote controller
			Hide of heat mode	0-Unlock, 1-Lock	0	6	Wired remote controller
6	1	Checking/setting of backlight time out		0~30 (Disuse in 0)	5	1	Wired remote controller (1 time use)
7	1	User Setting Function	Resetting filter cleaning alarm	0-No reset, 1-Reset	0	1	Wired remote controller
	2		Use of virus doctor	0-Disuse, 1-Use	0	1	Wired remote controller
	3		Use display of current temperature	0-Disuse, 1-Use	1	1	Wired remote controller
	4		Use of button melody	0-Disuse, 1-Use	1	1	Wired remote controller
	5		Use of IR receiver for wireless remote controller[1)]*	0-Disuse, 1-Use	0	1	Wired remote controller
8	1	Setting/Checking Easy Tuning		-2 ~ +2	0	1	Wired remote controller (1 time use)
0	1	Reset to default value of user setting mode (except current time)		0-No reset, 1-Reset	0	1	Wired remote controller (1 time use)

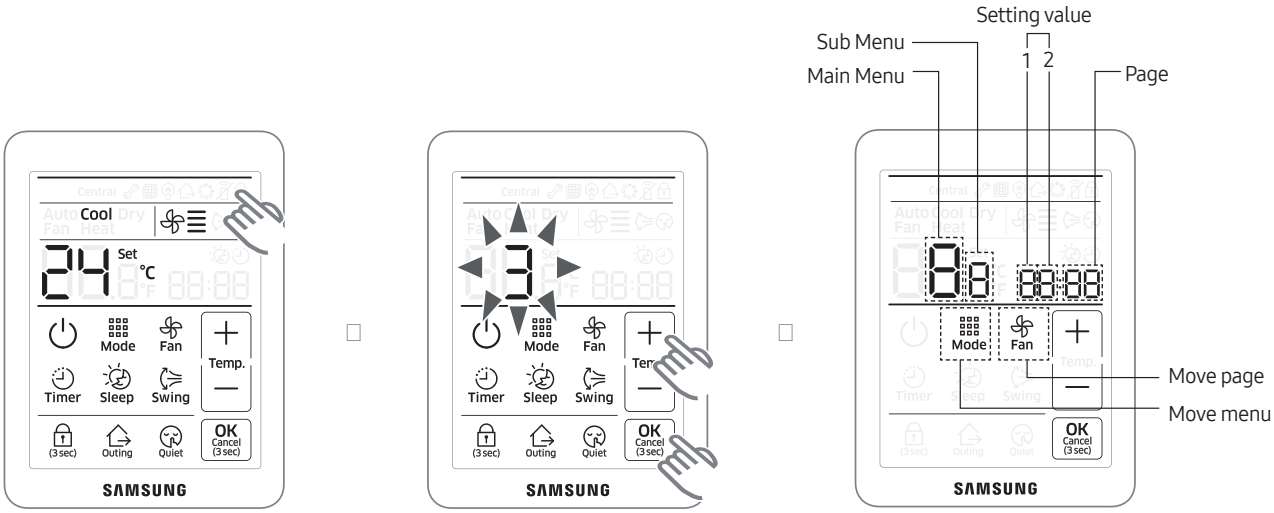
1)* In case of duct type indoor unit, you can use wireless remote controller using IR receiver of this wired remote controller without “Display and receiver kit”

()* is used in Turkey.

Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Service mode

How to set



1 If you want to use the various additional functions for your wired remote controller, press the top right corner (hidden button) of the display for more than 3 seconds and drop it. Then you can press [+]/[-] buttons and select No.3 and press [OK] button.

- You will enter the additional function settings, and the main menu will be displayed.
- If you select the other number and press [OK] button, then you can go back to the normal display.

2 Refer to the list of additional functions for your wired remote controller on the next page, and select the desired menu.

- Using the [+]/[–] buttons, select a main menu number and press the [Mode] button to enter the sub-menu setting screen.
- Using the [+]/[–] buttons, select a sub menu number and press the [Mode] button to enter data setting screen.
- Using the [+]/[–] buttons, select the settings.
- Press the [Fan] button to select page.
- Press the [OK] button to save the current settings. the [OK] button is invalid on the main menu or sub menu setting screen.
- Press the [Cancel] button for more than 3 seconds to exit to normal mode without saving settings.

Main menu	Sub menu	Function description		Setting value		Page	Save location
				Value	Factory default		
1	1	Wired remote controller setting/ checking (1)	Cooling/Heating selection	0 - Cooling/ Heating, 1 - Cooling only	0	01	Wired remote controller
			Use of wireless remote controller for indoor unit	0 - No use, 1 - Use	1	02	Wired remote controller
			Master/Slave wired remote controller	0 - Master, 1 - Slave	0	03	Wired remote controller
			Temperature unit	0 - Celsius(°C), 1 - Fahrenheit(°F)	0	04	Wired remote controller

()* is used in Turkey.

Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Main menu	Sub menu	Function description		Setting value		Page	Save location
				Value	Factory default		
1	2	Wired remote controller setting/ checking (2)	Temperature sensor selection	0 - Indoor unit, 1-Wired remote controller	0	01	Wired remote controller
			Use of average temperature	0 - No use, 1 - Use	0	02	Wired remote controller
			Use of Auto mode	0 - No use, 1 - Use	1	03	Wired remote controller
			Temperature display	0 - Set temperature 1 - Room temperature 2 - Relative temperature[1)]*	0	04	Wired remote controller
	5	Room temperature compensation [2)]*	Temperature control reference	-9 ~ 40 °C (15.8 ~104 °F)	Current sensor temperature	01	Wired remote controller
			Temperature compensation value	-9.9 ~ 9.9 °C (14.2 ~49.8 °F)	0	02, 03	Wired remote controller
	6	Number of connected units	Number of indoor units	0 ~ 16	0	01	None
	7	Temperature increment/ decrement unit (°C only)		0 - 1 °C, 1 - 0.5 °C, 2 - 0.1 °C	0	01	Wired remote controller
	0	Factory option setting		0 - Unchanged, 1 - Factory setting	0	01	None
2	1	Software code		Software code	None	01~03	None
	2	Software version		Software version	None	01~03	None
4	1	Indoor unit address/option setting/ checking [3)]*	Target address setting	Target address of indoor unit (Example: 20 02 1F)	View master	01~03	None
	2		Main address setting/ checking	0~4F (in hexadecimal digits)	Main address of target	1	None
	3		RMC address setting/ checking	0x00~0xFE [4)]*	RMC address of target	1	None
	4		Basic option setting/ checking	Option code	Basic option of target	01~20 [5)]*	None
	5		Install option setting/ checking	Option code	Install option of target	01~20 [5)]*	None
	6		Install(2) option setting/ checking	Option code	Install(2) option of target	01~20 [5)]*	None

1)* Relative temperature means that the wired remote controller only displays the temperature increase or decrease (± 3) compared to the reference temperature. Reference temperature is determined by other controller's desired temperature setting.
(Example: DMS set 24 °C (75 °F) → 24 °C (75 °F) is reference temperature. Wired remote controller displays it as '0')

2)* Only the Celsius temperature unit is allowed when this function setting and checking in the service mode. For the Fahrenheit temperature, you need temperature conversion before this function setting and checking by the Celsius temperature unit.

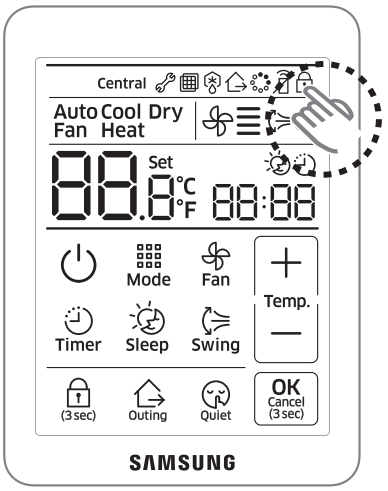
3)* When setting the address/option, you can set the target indoor unit by selecting sub menu 1.

()* is used in Turkey.

Wired Remote Controller› MWR-SH10N (MWR-SH10RN)*

System reset

Press the top right corner (hidden button) of the display for more than 7 seconds.
Your wired remote controller will be initialized, and the device will search for the indoor units connected to your wired remote controller again.



Outing operation

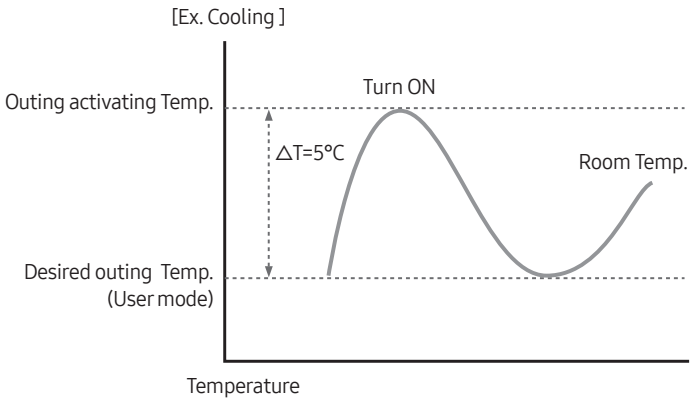
Outing function keeps minimum cooling/ heating temperature of indoor on your absence.

1 Press the [Outing] button.
Outing indicator will be displayed.

2 When an air conditioner is turned off,

a If indoor temperature has 5°C(9°F) difference with desired outing temperature, the air conditioner will be turned on automatically.

b If indoor temperature is same as desired outing temperature, the air conditioner will be turned off automatically.



c it is repeated depending on indoor temperature within 12 hours, and then outing function is canceled.

- You can use outing function in only cool/heat mode.
- The outing function will be active when indoor unit is turned off.
- The outing function operates with low fan speed.
- If there is any input button on your wired remote controller, outing function will be canceled.
- If your indoor unit's status is changed, outing function will be canceled.
- You can set the desired outing temperature on the user setting mode.
  ‹Outing temperature setting range›
  - Cool mode: 25~30°C (77~86°F), default: 27 °C (81°F)
  - Heat mode: 16~22°C (61~72°F), default: 16 °C (61°F)
- You can use the outing function in the master wired remote controller. The slave wired remote controller just displays it for a outing function status of the master wired remote controller.
  - Press the [Outing] button on the slave wired remote controller, then the 🔒 will blink.
- The outing function operation will be canceled if you change the master/slave setting on your wired remote controller.

()* is used in Turkey.

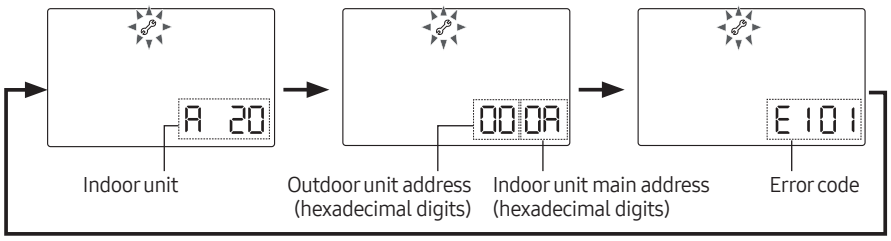
Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Error display

Error codes for the wired remote controller and the indoor units connected to your wired remote controller will be displayed in the LCD display.

LCD Display

Example: Error 101 occurs for Indoor Unit no. 10 (decimal digits)



- When an error occurs in your indoor/outdoor units (product group display: A)

  The product address for the error will be displayed, followed by the error code.

Example: Error 601 has occurred at your wired remote controller.

- When an error occurs in your wired remote controller

  Only an error code will be displayed. (No address will be displayed.)

No.	Error code	Description of the error	Remarks
1	601	Communication error between wired remote controller and indoor units (When communication is lost for over 3 minutes after detecting the indoor unit and the wired remote controller)	-
2	602	No communication between Master(Main) and Slave(Sub) wired remote controllers	-
3	604	No communication between wired remote controller and indoor units (Including communication error between indoor units and outdoor units)	-
4	6 18	• Exceeded maximum number of indoor unit connection (16 indoor units) • Reset is required after checking the number of indoor units	-
5	627	Two or more wired remote controllers set as slave(sub)	-
6	653	Temperature sensor open/short error	
7	654	EEPROM error	-

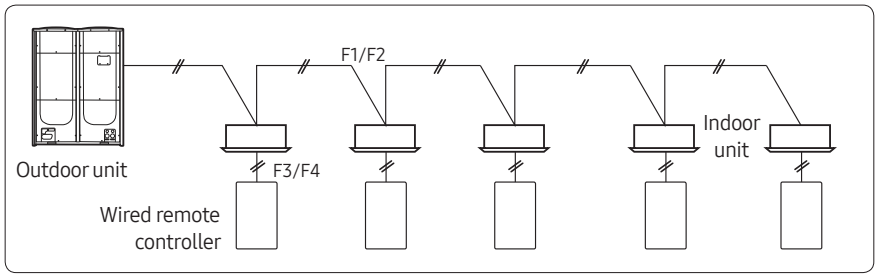
()* is used in Turkey.

Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Communication diagram

Individual control (1)

Control 1 indoor unit with 1 wired remote controller



Control

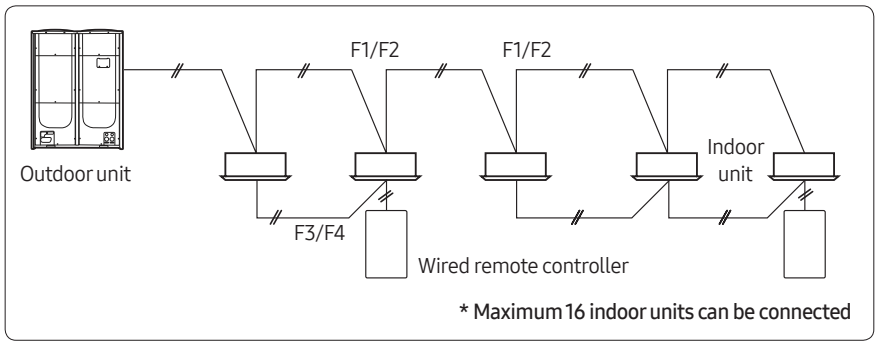
- All connected indoor units

Display

- Operation status of the connected indoor unit

Group control (1)

Control multiple indoor units with 1 wired remote controller



Control

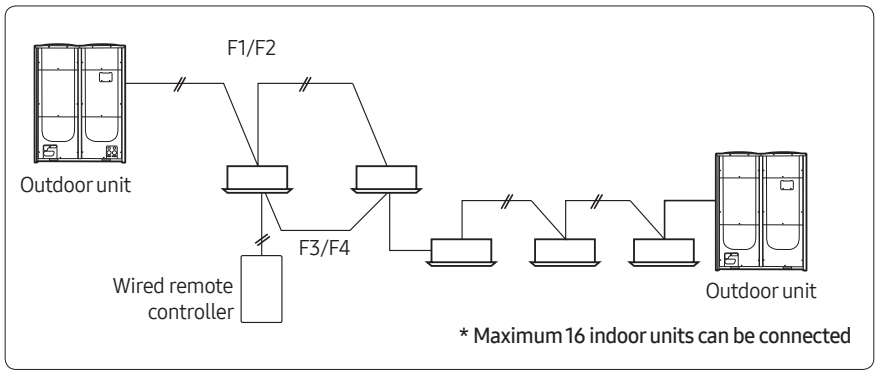
- All connected indoor units

Display

- Priority 1. Display the status of view master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

Group control (2)

Control multiple indoor units connected to different outdoor units with 1 wired remote controller



Control

- All connected indoor units

Display

- Priority 1. Display the status of view master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address

⚠ Caution

- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.

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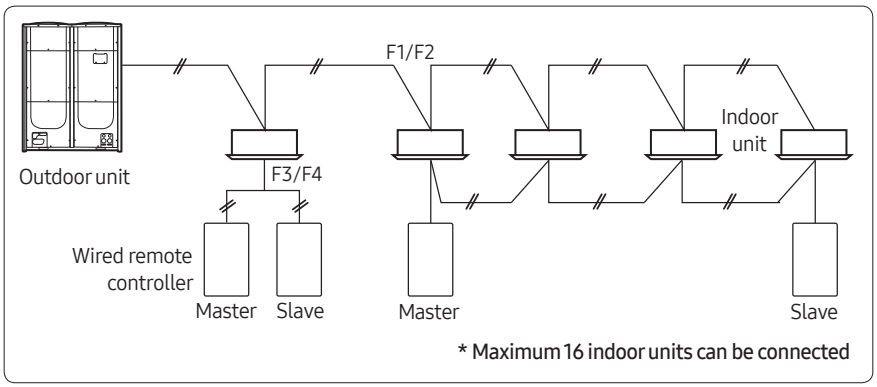
Wired Remote Controller › MWR-SH10N (MWR-SH10RN)*

Group control (3)

Control 1 or multiple indoor units with 2 wired remote controllers



Control

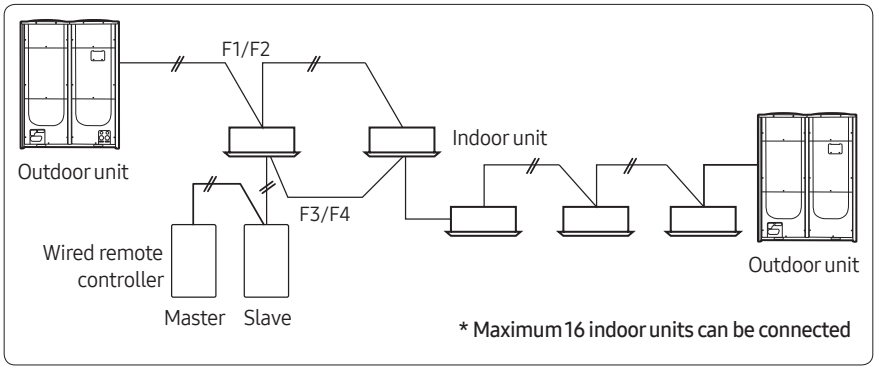
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

Group control (4)

Control multiple indoor units connected to different outdoor units with 2 wired remote controller



Control

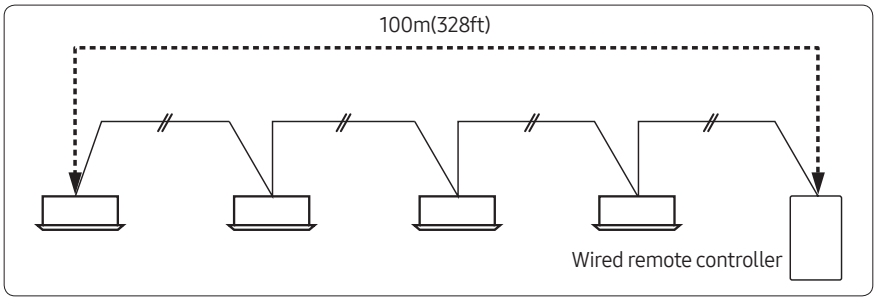
- All connected indoor units

Display

- Priority 1. Display the status of View Master indoor unit
- Priority 2. Display the status of indoor unit which has the earliest Main address
  - Two wired remote controllers identically display the operation status of the indoor unit according to above priority.

⚠ Caution

- When controlling group of indoor units connected to different outdoor unit, address of the each outdoor unit must be set differently.



- Max. distance between the farthest indoor unit and wired remote controller: 100m(328ft)

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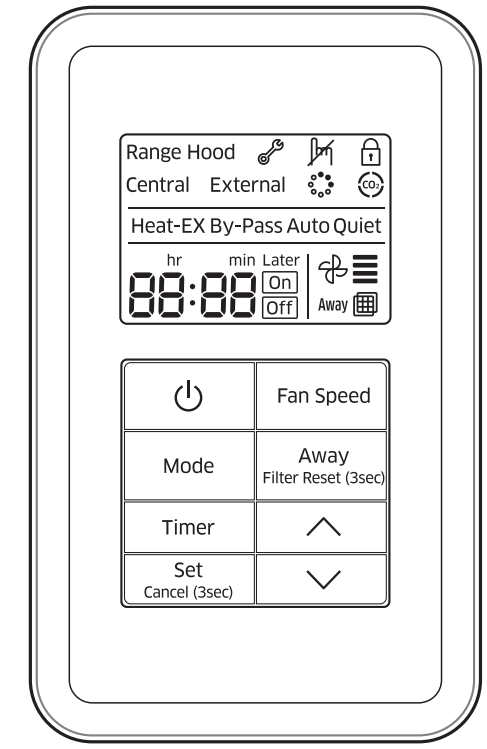
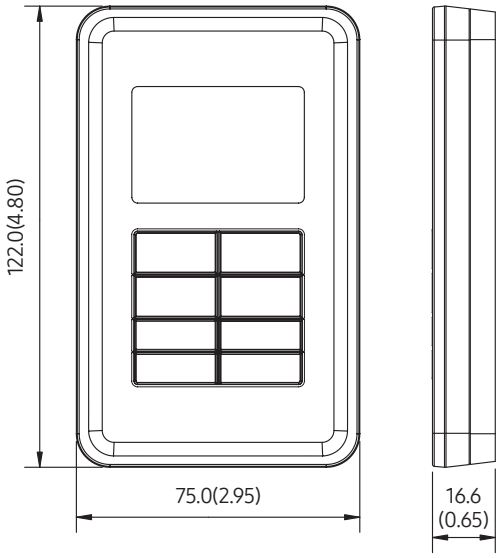
ERV Wired Remote Controller

MWR-VH12N (MWR-VH12RN)*





Unit: mm(inch)

Features

- Wired remote controller for ERV
- ERV operation ON/OFF control
- Fan speed control
- Operation mode setting
- Filter replacement alarm reset
- Outing mode
- Simple On/Off timer

Product specification

Power supply	DC 12V
Power consumption	1.5 W
Operating temperature range	0°C~40°C (32°F~104°F)
Operating humidity range	30 % RH~90 % RH
Communication	2-wire PLC
Maximum length of connection	100 m (328ft)
Maximum number of controllable devices	16 ERVs

Compatible product

ERV	New communication ERV only

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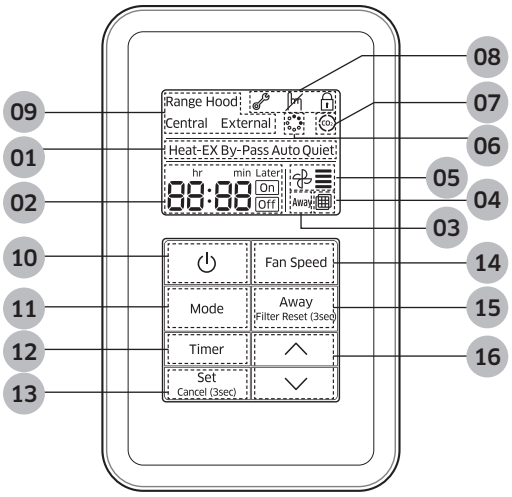
ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

Description of parts



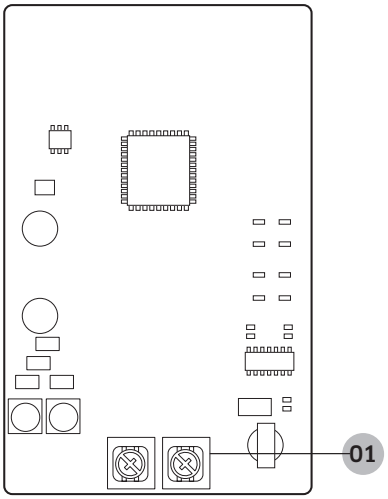
No.	Name	Description
01	Operation mode indicator	Indicates current operation mode when the ERV is operating. (Heat-EX/By-Pass/Auto/Quiet)
02	Timer indicator	On Indicates when On timer is set. Off Indicates when Off timer is set.
		hr min Later • Timer mode: Displays the set time for On/Off timer. (Min. 30 minutes~Max. 24 hours) • General mode: Displays remaining time before Timer function will execute.
03	Outing mode indicator	Indicates when outing mode is on.
04	Filter cleaning (period) indicator	Indicates when preset filter cleaning is required.
05	Fan speed indicator	Indicates current fan speed settings.
06	S-Plasma ion(SPI) indicator (optional)	Indicates when S-Plasma ion(SPI) function is on.
07	CO_2 sensor indicator (optional)	Indicates indoor CO_2 density when the sensor is on. (If the ERV is operating.)
08	Inspection/Lock/Restricted indicator	• : Indicates that inspection is required. • : Indicates when an unavailable function which is not supported by indoor units is selected or when the button is locked. • : Indicates when all buttons are locked.
09	Exhaust hood/Centralized/ External interlocking control indicator	Indicates when Exhaust hood/Centralized/External interlocking control is on.
10	On/Off button	To turn ERV on or off
11	Operation mode button	To select an operation mode (Heat-EX → By-pass → Auto → Quiet) • Available operation mode is according to ERV View master.

()* is used in Turkey.

ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

No.	Name	Description
12	Timer button	To set simple on/off timer or external interlocking delay
13	Set/Cancel button	To set or cancel the option • Press and hold the button for over 3 seconds to cancel the timer.
14	Fan speed button	To select the fan speeds of indoor units • Available fan speed differs depending on the operation mode in the following order; Low → Medium → High → Turbo → Auto.
15	Outing/Filter reset button	• To turn the outing mode on or off • To turn the filter cleaning display off – Press and hold the button for over 3 seconds to turn off the filter cleaning display.
16	Time adjustment button	To move to the last or the next items or change the set value • Press the button to increase or decrease the set time during the timer is set. – Up to 3 hours: Increase/decrease by 30 minute unit – Over 3 hours: Increase/decrease by 1 hour unit • Press the button to increase or decrease the set time during external interlocking delay is set. – Set the time by 1 minute unit between 30 minutes and 1 hour.

PCB



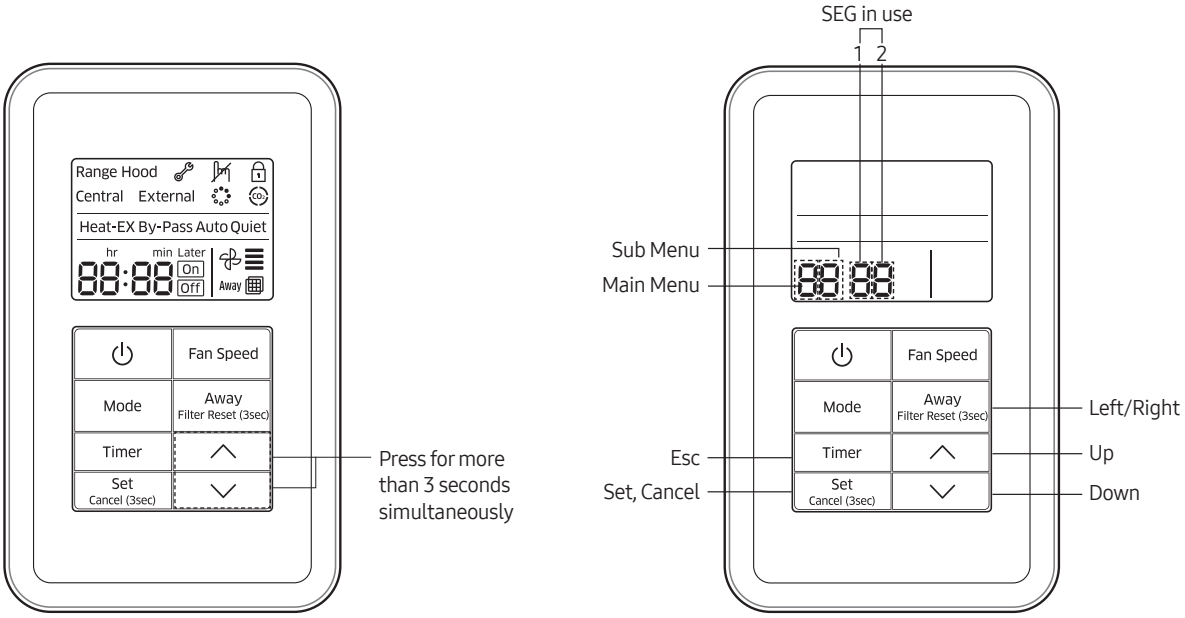
No.	Name	Description
01	Power/communication connection terminal	Connect to indoor unit (F3/F4)

()* is used in Turkey.

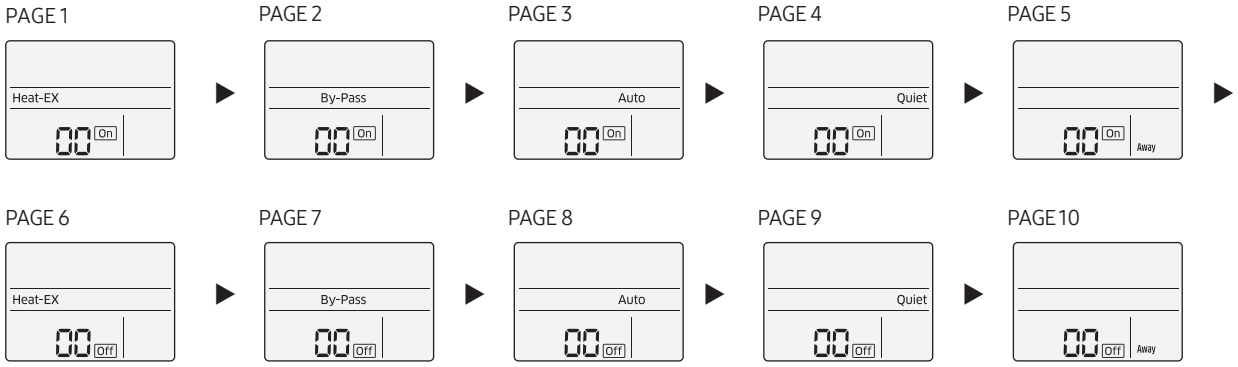
Option function

User setting mode

How to set



- SEG is divided as page according to displaying operation mode, [On], [Off] icon.



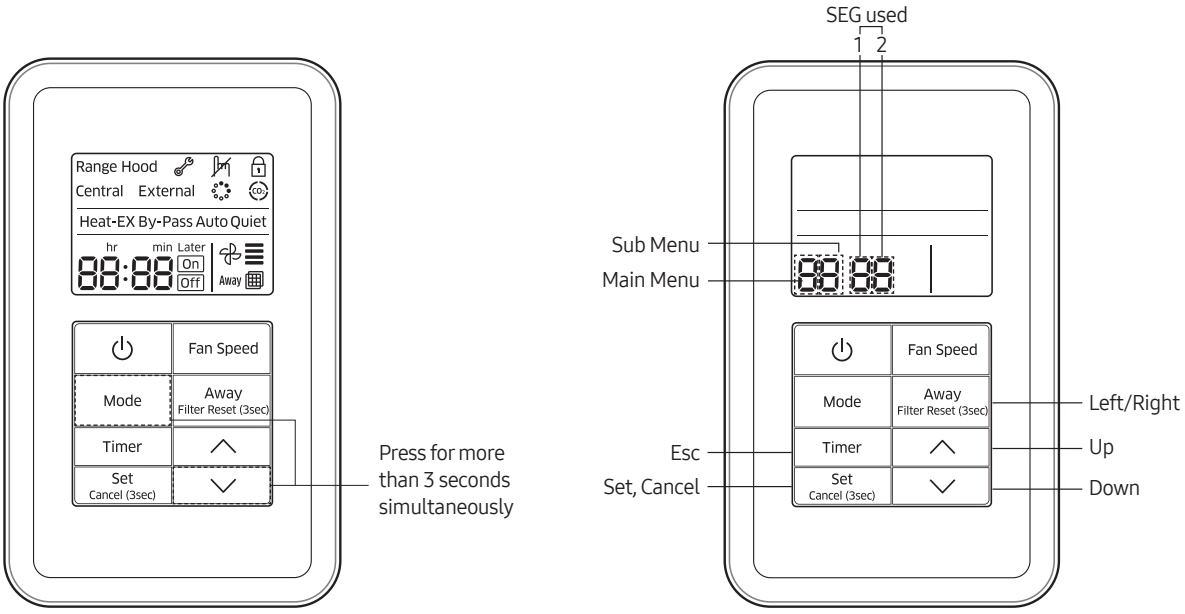
Main menu	Sub menu	Function		Default	Page in use	Range	Remarks
0	1	Reset User mode to default value		0	1	0 - Disabled,1 - Reset	
1	1	Lock all		0	1	0 - Unlock, 1 - Lock	
	2	Partially lock buttons	Lock On/Off button	0	1	0 - Unlock, 1 - Lock	
	3		Lock Mode button	0	1	0 - Unlock, 1 - Lock	
	4		Lock Fan speed button	0	1	0 - Unlock, 1 - Lock	
	5		Lock Timer button	0	1	0 - Unlock, 1 - Lock	

()* is used in Turkey.

ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

Service mode

How to set



Main menu	Sub menu	Function		Factory setting	Page number	Range	Remarks
0	1	Reset	Reset to default value of ERV wired remote controller option setting	0	1	0-Disuse, 1-Reset	
	2		Reset to factory setting of ERV wired remote controller	0	1	0-Disuse, 1-Reset	
	3		Power Master Reset 3)*	0	1	0-Disuse, 1-Reset	
	4		Addressing Reset	0	1	0-Disuse, 1-Reset	
1	1	Information on ERV wired remote controller	Checking the number of connected indoor units	0	1	0~16 EA	
	2		Checking the number of connected ERVs	0	1	0~16 EA	
	3		Checking the Micom code of ERV wired remote controller	none	3	Micom code	
	4		Checking the program version information of ERV wired remote controller	none	3	Modified date	
2	1	Setting address/ option 2)*	Target	ERV View Master	3	Address of registerd devices / hexadecimal 5)*	
	2		Setting/checking main address	Main address of target	1	Main address (00H~4FH/ hexadecimal)	
	3		Setting/checking RMC address	RMC address of target	1	Group address (00H~FEH/ hexadecimal) 4)*	
	4		Setting/checking product option	Basic option of target	10 1)*	Option code of indoor units or ERVs	
	5		Setting/Checking installation option 1	Installation option of target	10 1)*	Refer to the installation manual of connected indoor units or ERVs	
	6		Setting/Checking installation option 2	Installation (2) option of target	10 1)*	Refer to the installation manual of connected indoor units or ERVs	

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ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

Main menu	Sub menu	Function		Factory setting	Page number	Range	Remarks
3	1	Setting/ checking View Master	Setting/checking indoor unit View Master	Indoor unit View Master	3	Address of registered devices / hexadecimal 5)*	None
	2		Setting/checking ERV View Master	ERV View Master	3	Address of registered devices / hexadecimal 5)*	
4	1	Setting/ checking optional functions of ERV wired remote controller	ERV wired remote controller Master/Slave	0	1	0-Master, 1-Slave	
	2		Use of external interlock	0	1	0-Disuse, 1-Use	
5	1	Setting/ checking ERV	Exhaust RPM	none	2	0~9999	
	2		Intake RPM	none	2	0~9999	
	3		Indoor temperature	none	1	0~99	
	4		Outdoor temperature	none	1	0~99	
	5		Indoor humidity	none	1	0~99	
	6		Outdoor himidity	none	1	0~99	
	7		CO_2 sensor	none	2	0~9999	
	8		Fan step 6)*	none	1	0~31	
	9		Exhaust fan step	none	1	0~31	
	A		Intake fan step	none	1	0~31	

1)* The total option codes are 24 digits. You can set six digits at a time and it is distinguished by page number. Press the **Timer** button to go to the next page.

⚠ Caution

- Options can be set from SEG1 to SEG24
  - SEG1, SEG7, SEG13, and SEG19 are page option so they cannot be set nor be displayed.
  - SEG2 is the option type which cannot be set.
  - When SEG2~SEG6 and SEG8~SEG12 are set, "On" is displayed and when SEG14~18 and SEG20~24 are set, "Off" is displayed.

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
0	X	X	X	X	X	1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
2	X	X	X	X	X	3	X	X	X	X	X

On (SEG2~SEG6, SEG8~SEG12)	Off (SEG14~18, SEG20~24)
	

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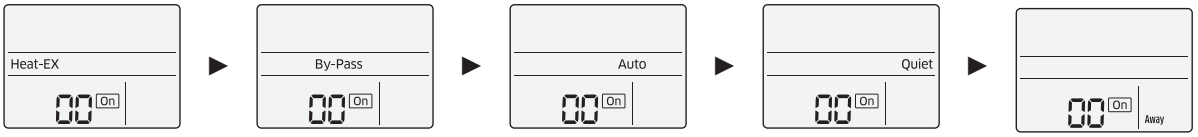
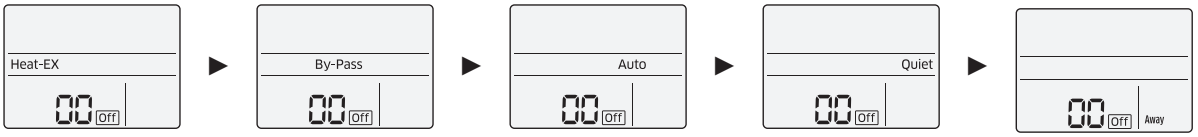
ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

- The current SEG displayed can be distinguished by operation mode, On, and Off icon.
  SEG2~SEG6, SEG8~SEG12
  - On(Heat-EX → By Pass → Auto → Quiet → Away)

  SEG14~SEG18, SEG20~24
  - Off(Heat-EX → By Pass → Auto → Quiet → Away)



‹SEG 2, 3› ‹SEG 4, 5› ‹SEG 6, 8› ‹SEG 9, 10› ‹SEG 11, 12›



‹SEG 14, 15› ‹SEG 16, 17› ‹SEG 18, 20› ‹SEG 21, 22› ‹SEG 23, 24›

2)* When setting the address or option, you can set the target device with sub menu no.1.

3)* Power Master Reset is a setting needed to supply optimized power to ERV wired remote controller when multiple indoor units or ERVs are connected to ERV wired remote controller in a group.

4)* RMC(1) : 0~F / RMC(2) : 0~F (hexadecimal)
When RMC(1) is F, RMC(2) can be set up to E. (RMC(1) : Group channel, RMC(2) : Group address)

5)* Displaying address of ERVs (hexadecimal display)
e.g. 30 00 0B

6)* Fan step setting is available only when one ERV is connected.

Note

- Address is displayed in hexadecimal. Refer to the table below.

Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal
00	0	10	16	20	32	30	48	40	64
01	1	11	17	21	33	31	49	41	65
02	2	12	18	22	34	32	50	42	66
03	3	13	19	23	35	33	51	43	67
04	4	14	20	24	36	34	52	44	68
05	5	15	21	25	37	35	53	45	69
06	6	16	22	26	38	36	54	46	70
07	7	17	23	27	39	37	55	47	71
08	8	18	24	28	40	38	56	48	72
09	9	19	25	29	41	39	57	49	73
0A	10	1A	26	2A	42	3A	58	4A	74
0B	11	1B	27	2B	43	3B	59	4B	75
0C	12	1C	28	2C	44	3C	60	4C	76
0D	13	1D	29	2D	45	3D	61	4D	77
0E	14	1E	30	2E	46	3E	62	4E	78
0F	15	1F	31	2F	47	3F	63	4F	79

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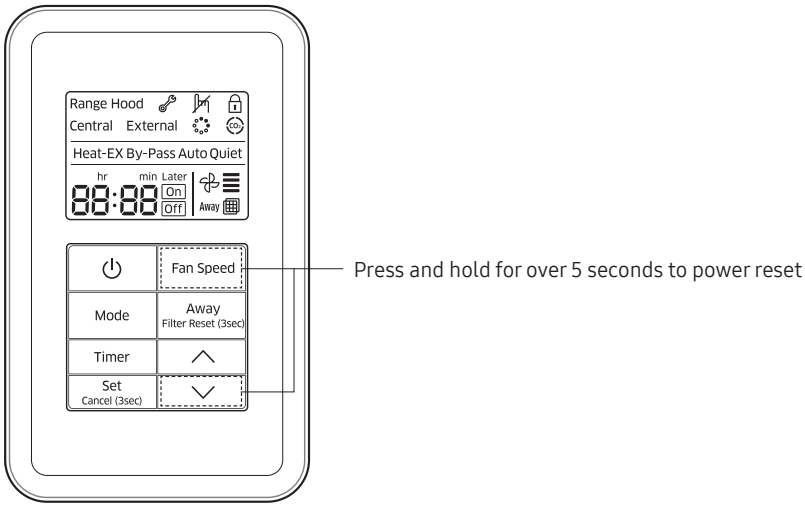
ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

System reset

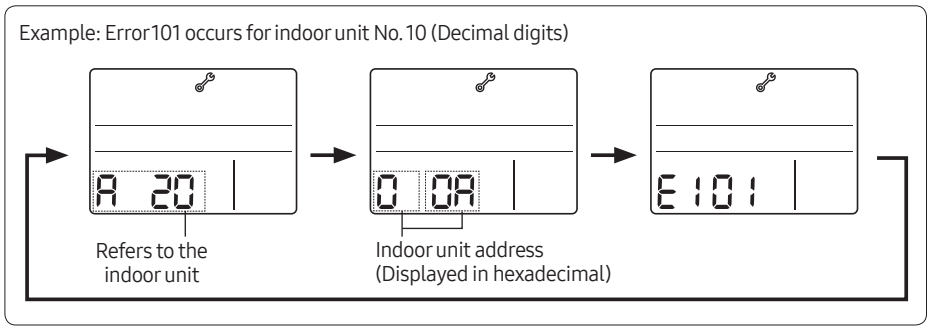
Reset the power of the ERV wired remote controller.



Display

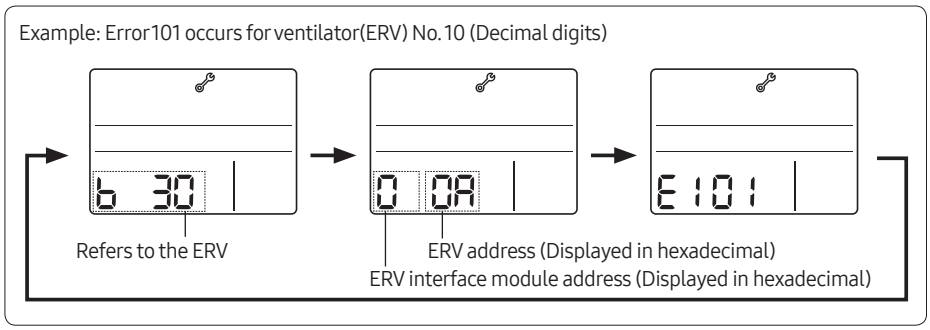
Error display

Error codes for the ERV wired remote controller and the product connected to it will be displayed on the LCD display.



- When an error occurs in your indoor/outdoor units (Product group display: A20)

  Address of the product with error and the error code will be displayed alternately.



- When an error occurs in your ventilator(ERV) and ERV interface module (Product group display: b30)

  Address of the product with error and the error code will be displayed alternately.

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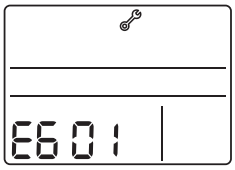
ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

Example: Error 601 has occurred at your ERV wired remote controller.



- When an error occurs in your ERV wired remote controller

  Only an error code will be displayed. (No address will be displayed.)

No.	Error code	Description of the error
1	604	Tracking error between ERV wired remote controller and ventilator(ERV) for over 3 minutes
2	609	No indoor unit installed for interlocking function
3	618	• Over16 ERV/indoor units installed • The ERV wired remote controller must be reset after checking the number of installed ERV/indoor units
4	627	Installation error in Slave ERV wired remote controller (When two or more slave ERV wired remote controllers are installed)
5	602	No communication between Master and Slave wired remote controllers
6	601	Communication error between ERV wired remote controller and ERV/indoor units (When there's no communication between the devices for 3 minutes after successful ERV wired remote controller tracking)
7	654	EEPROM error

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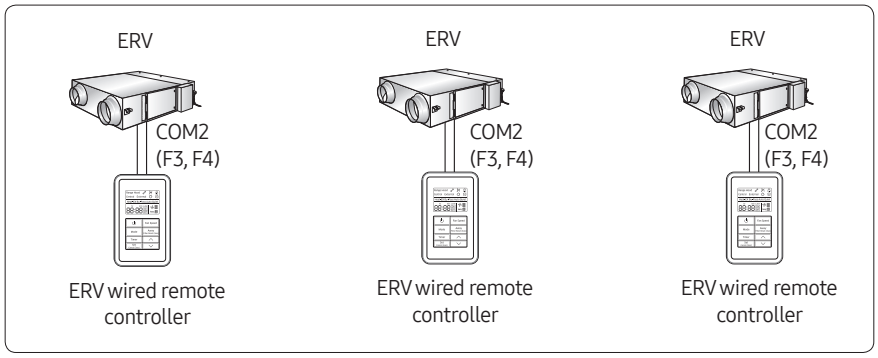
ERV Wired Remote Controller › MWR-VH12N (MWR-VH12RN)*

Connection diagram

Individual control

1 ERV, 1 wired remote controller



Control

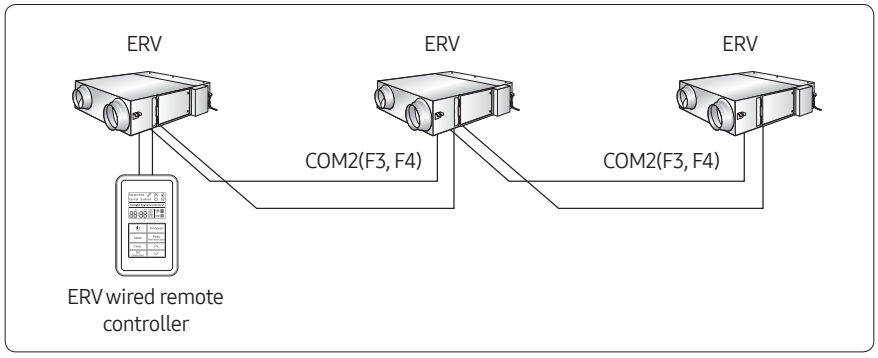
- All connected ERVs

Display

- Status of connected ERVs

Group control (1)

Control multiple ERVs with single wired remote controller



Control

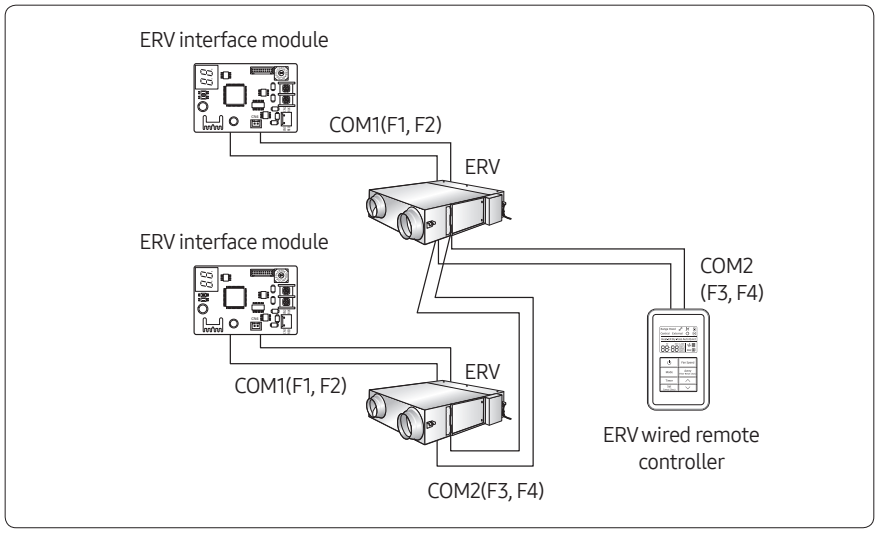
- All connected ERVs

Display

- Priority 1. Display the operation status of View Master ERV
- Priority 2. Display the operation status of ERV which has the earliest Main address

Group control (2)

Control multiple ERVs connected to different ERV interface modules with single wired remote controller



Control

- All connected ERVs

Display

- Priority 1. Display the operation status of View Master ERV
- Priority 2. Display the operation status of ERV which has the earliest Main address

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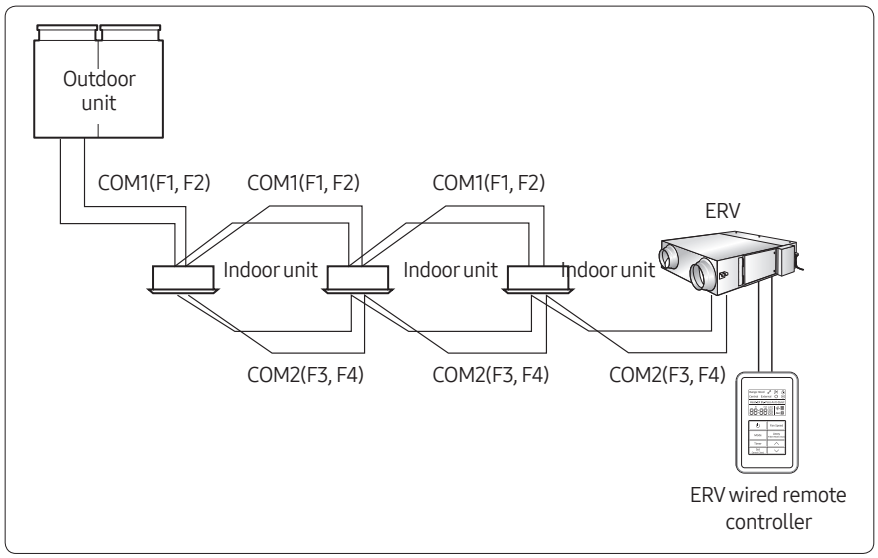
ERV Wired Remote Controller› MWR-VH12N (MWR-VH12RN)*

Mixed installation

Connect indoor units and ERVs to a single ERV wired remote controller



Control

- All connected ERVs

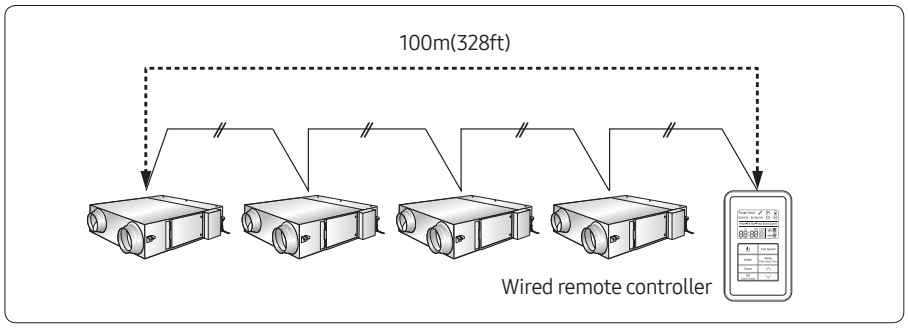
Display

- Priority 1. Display the operation status of View Master ERV
- Priority 2. Display the operation status of ERV which has the earliest Main address

⚠ Caution

- Connect the devices as the above diagram for external interlocking control which interlock ERV On/Off with indoor unit On/Off.
- ERV wired remote controller cannot control indoor units.
- ERV wired remote controller and wired remote controller for indoor units cannot be connected at the same time. (AWR-WE10N etc.)

Maximum length of connection



- Max. distance between the farthest ERV and wired remote controller: 100m (328ft)

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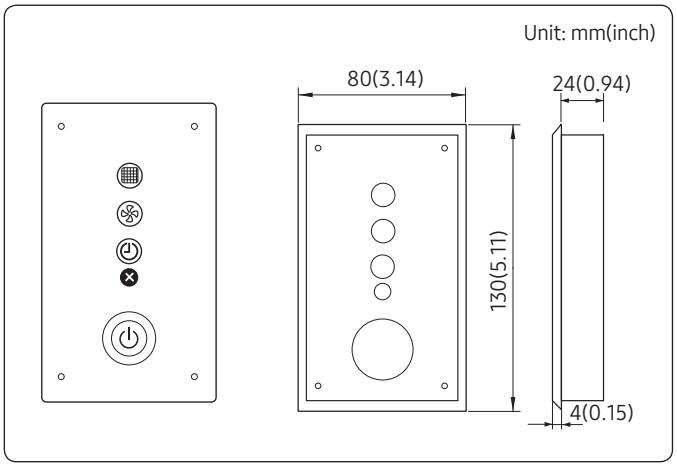
Receiver KIT

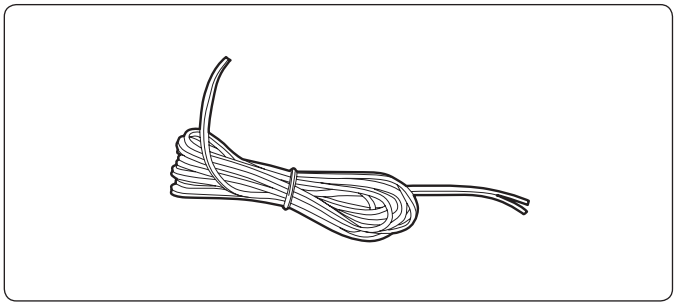
MRK-A10N

Features



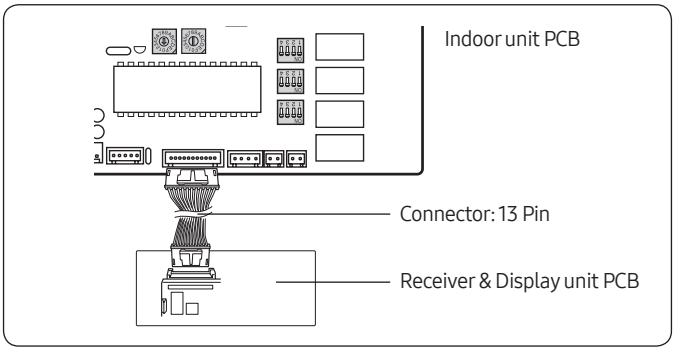
Receiver & Display Unit

- Concealed wireless signal receiver
- Filter replacement sign
- Fan operation display
- Operation Timer setting display
- Operation On/Off button
- Operation On display LED (blue)
- Defrost operation display LED (red)



- Receiver wire

Wiring



- Connect one end of the receiver wire with the Receiver & Display unit PCB.
- Connect the other end of the receiver wire with the duct type indoor unit PCB.

Note

- Wire length: 10m (32.80ft)
- Receiver & Display unit is only available for a duct type indoor unit.

Chapter
02

Centralized Control System

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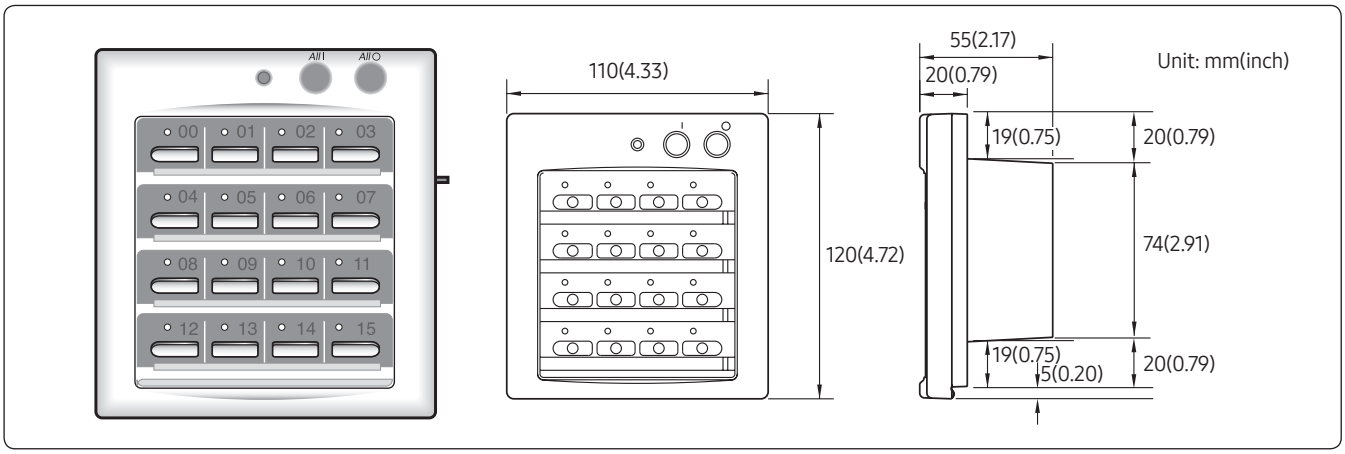
OnOff controller

MCM-A202DN (MCM-A202DRN)*

Features



- Maximum 16-group controller (Max. 128 units)
- Whole/Group/Individual indoor unit control (On/Off)
- Restriction on the use of wireless/wired remote controllers and external contact control
- Cooling and heating mode control
- Indoor unit error display

Product specification

<table>
<tr><td colspan="2">Power supply</td><td>AC200V~240V, 50/60Hz</td></tr>
<tr><td colspan="2">Power consumption</td><td>8W</td></tr>
<tr><td colspan="2">Operating Temperature range</td><td>0°C~40°C (32°F~104°F)</td></tr>
<tr><td colspan="2">Operating Humidity range</td><td>30%RH~90%RH</td></tr>
<tr><td colspan="2">Communication</td><td>RS485 x 1 (R1/R2)</td></tr>
<tr><td colspan="2">Max. Communication length</td><td>1000M (3280ft)</td></tr>
<tr><td rowspan="2">Max. connectable number of device</td><td>Set layer</td><td>
<table>
<tr><th>Device</th><th>Number</th></tr>
<tr><td>Indoor units (including ERV, MCU)</td><td>80 (Maximum 64 indoor units, 16 ERVs and 15 MCUs)</td></tr>
<tr><td>Outdoor unit</td><td>1</td></tr>
<tr><td>OnOff controller/Touch centralized controller/Wi-Fi kit</td><td>Total 16</td></tr>
</table>
</td></tr>
<tr><td>Control layer</td><td>
<table>
<tr><th>Device</th><th>Number</th></tr>
<tr><td>Indoor units (including ERV, MCU)</td><td>128</td></tr>
<tr><td>Outdoor unit (including compatible interface module MIM-N01)</td><td>16</td></tr>
<tr><td>OnOff controller/
Touch centralized controller</td><td>16 (15 when DMS2.5, BACnet gateway, LonWorks gateway is connected)</td></tr>
<tr><td>DMS2.5/BACnet GW/LonWorks GW</td><td>Total 1</td></tr>
</table>
</td></tr>
</table>

()* is used in Turkey.

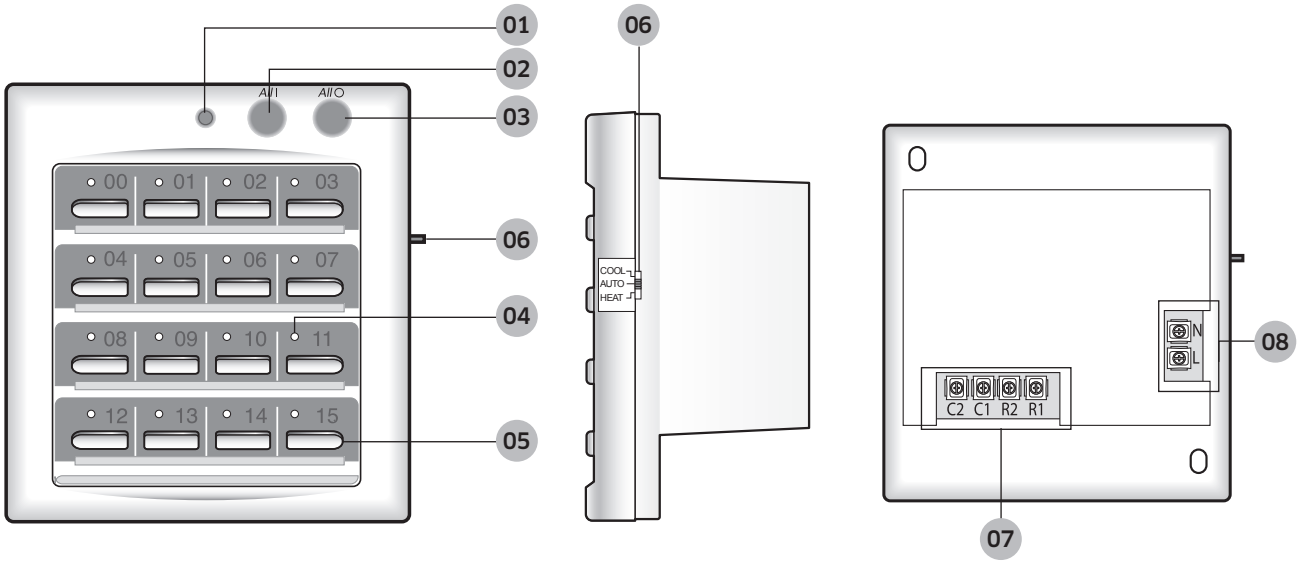
OnOff controller › MCM-A202DN (MCM-A202DRN)*

Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	DMS2.5 (MIM-D01AN)
	BACnet GW (MIM-B17BN)
	LonWorks GW (MIM-B18BN)

- Conventional communication outdoor unit requires interface module (MIM-N01) to establish connection
- MIM-B13D, MIM-B13E, MIM-B04A Interface modules cannot be connected.
- To connect ERV, MIM-N10 interface module is required.

Description of parts



No.	Name	Description
01	Indoor unit operation LED	• It lights on when more than one indoor unit operates. • It flickers during indoor unit tracking process after power reset.
02	All ON button	Press All ON button to turn on all the indoor units.
03	All OFF button	Press All OFF button to turn off all the indoor units.
04	Group indoor unit operation LED	• It lights on when one indoor unit of the group is operating. • It also flickers when indoor unit has an error. • During tracking indoor units, LED whose number is equivalent to indoor unit RMC(2) address flickers.
05	Indoor unit control button	Press indoor unit of the group button to control the equivalent unit operation.

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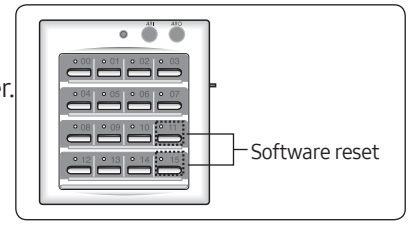
OnOff controller › MCM-A202DN (MCM-A202DRN)*

No.	Name	Description
06	Operation mode selection switch	Set operation mode selection switch to a certain mode and press indoor unit control button to control operation mode. Whenever pressing any button on the controller, set operation mode is delivered to the indoor unit.
07	Communication terminal	• C1 C2: No function • R1 R2: Connect to Outdoor unit, DMS2.5, OnOff controller
08	Power terminal	AC200V~240V connection

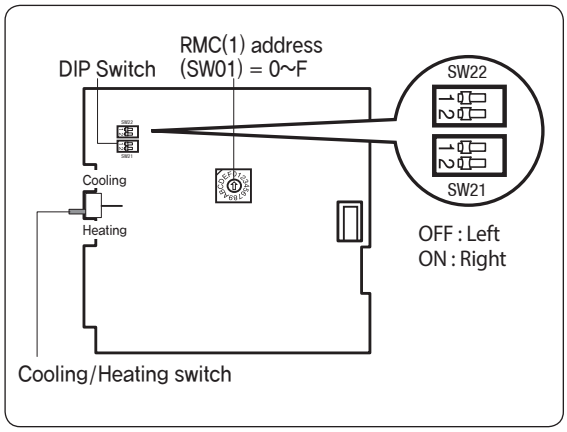
Note

- Press button 11 and button 15 together for 5 seconds to reset the OnOff controller.



Different Levels of the OnOff Controller

- Adjust the DIP switch in the OnOff controller PCB and set a level. This will enable the user to control the indoor units connected to the OnOff controller according to the set level.



Switch No.	SW22		Meaning
	1	2	
LEVEL 0	OFF	OFF	Among the various controllers, such as the OnOff controller, wired/wireless controller and the indoor unit button, the air conditioner will only be able to operate with the most recently used controller
LEVEL1	ON	OFF	The wired/wireless controller can only be used when the OnOff controller is powered on.
LEVEL 2	OFF	ON	The air conditioner can only be operated with the OnOff controller.

Note

- The LEVEL of the OnOff controller is '0' when all the switches are in the 'OFF' position.
- Changed LEVEL will be applied immediately when you turn on or off the operation with an OnOff controller.
- Level application and authorization for controlling from OnOff controller can be restricted depending on the Level setting from the upper controller with priority.

  Ex) OnOff controller cannot control the indoor units if the control level set from the DMS is higher than the level of OnOff controller.

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OnOff controller › MCM-A202DN (MCM-A202DRN)*

Setting the option for OnOff controller

1 You can adjust the DIP switch (SW21) on PCB of the OnOff controller to set the option and control the OnOff controller according to the selected option.

SW21		Contents
1	2	
ON	-	Disable OnOff controller usage
OFF	-	Enable OnOff controller usage

- All the DIP switches of the OnOff controller is set to OFF as factory default setting.
- SW21 setting of the DIP switch will be applied instantly.
- Option setting for communication can be executed regardless of the Level setting.

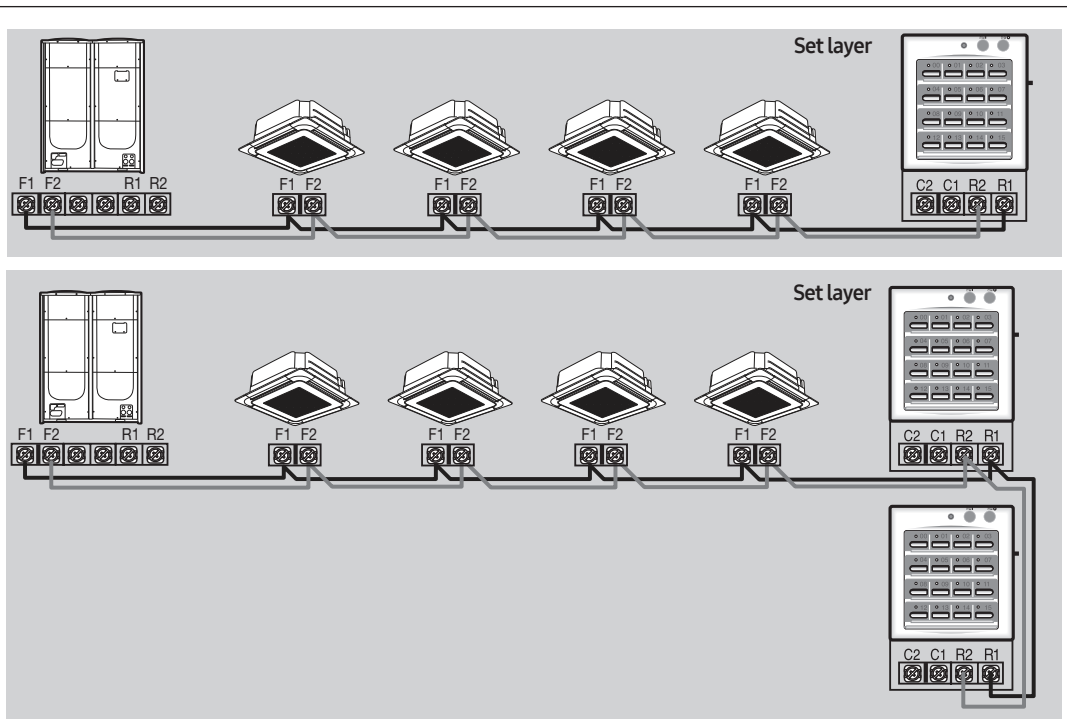
Connection diagram

Set layer connection (F1/F2)

- When OnOff controller only controls indoor units of 1 outdoor unit, then it can be connected to F1/F2 line of outdoor unit or indoor unit.
- Max. 16 Controllers can be connected to same communication line.

⚠ **Caution**

- Connectable controller: OnOff controller (MCM-A202DN), Touch centralized controller (MCM-A300N), Wi-Fi kit (MIM-H03N)



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OnOff controller › MCM-A202DN (MCM-A202DRN)*

Control layer connection (R1/R2)

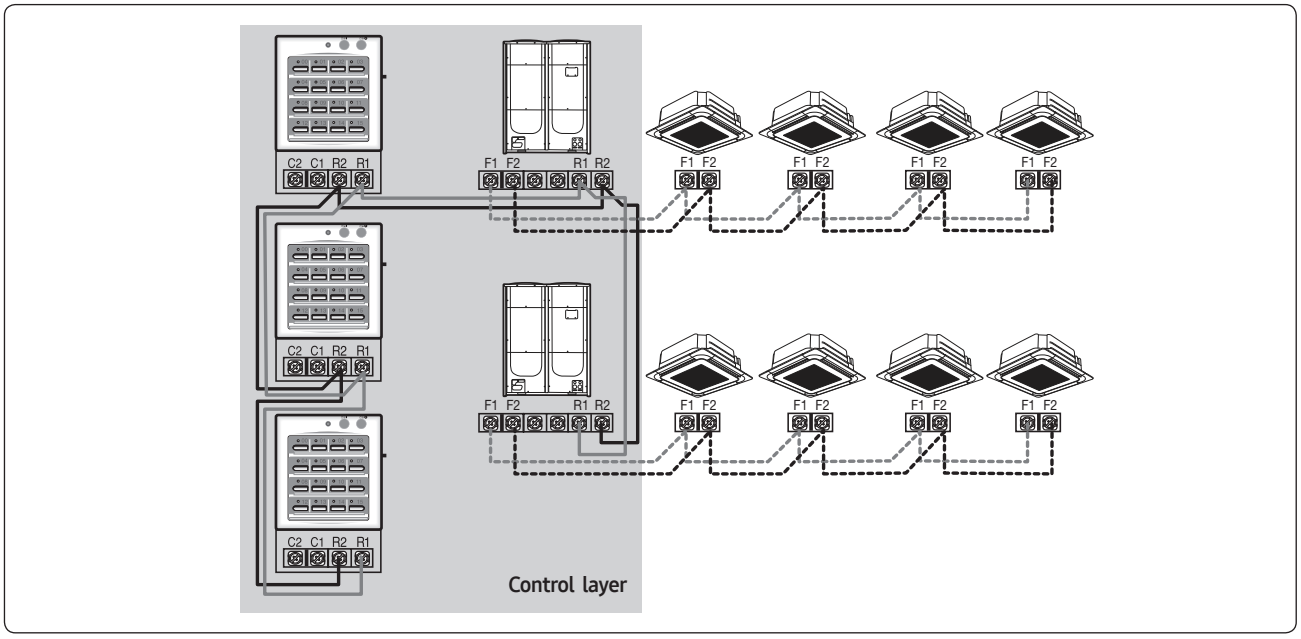
- New communication upper level controller
- Max. 16 Controllers can be connected to same communication line (In case of DMS2.5/BACnet gateway/LonWorks gateway connection, Max.15)
- Max. 16 outdoor units can be connected to same communication line (Includes interface module MIM-N01).

⚠ Caution

- Connectable controller
  - Touch centralized controller (MCM-A300N).
  - OnOff controller (MCM-A202DN).
  - DMS2.5(MIM-D01AN), BACnet gateway (MIM-B17BN), LonWorks gateway (MIM-B18BN): Only one of the three models.

Connection with outdoor unit

When OnOff controller controls indoor units of multiple outdoor units, then it should be connected to R1/R2 line of outdoor units.

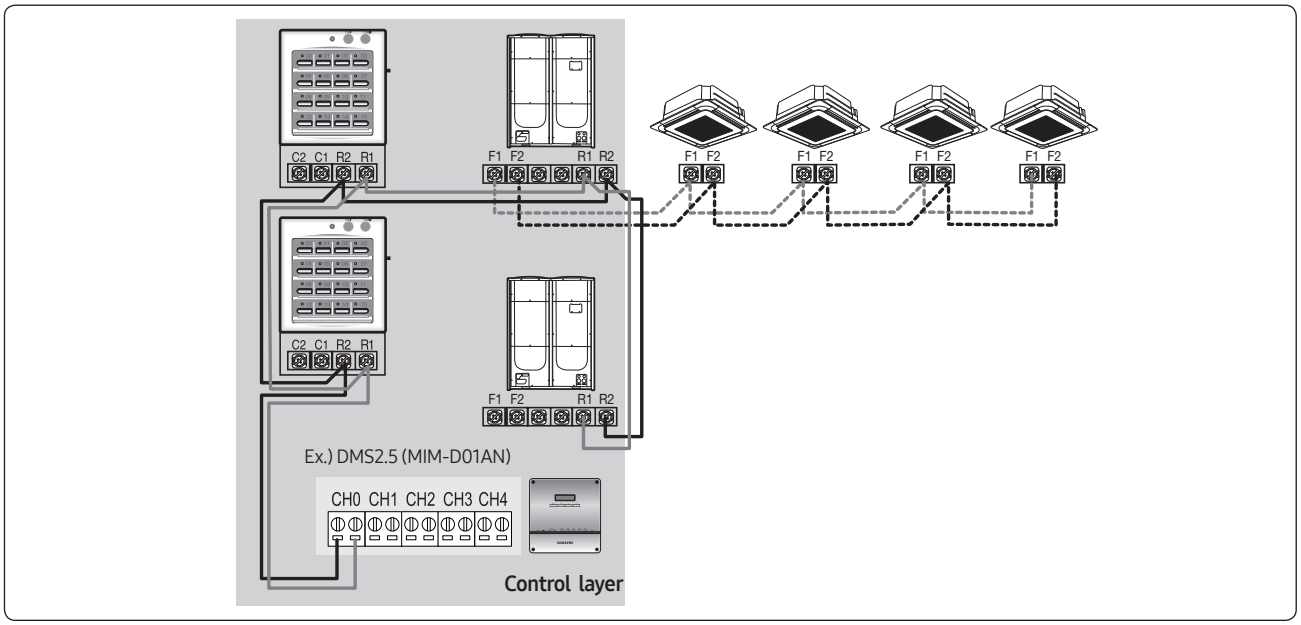


()* is used in Turkey.

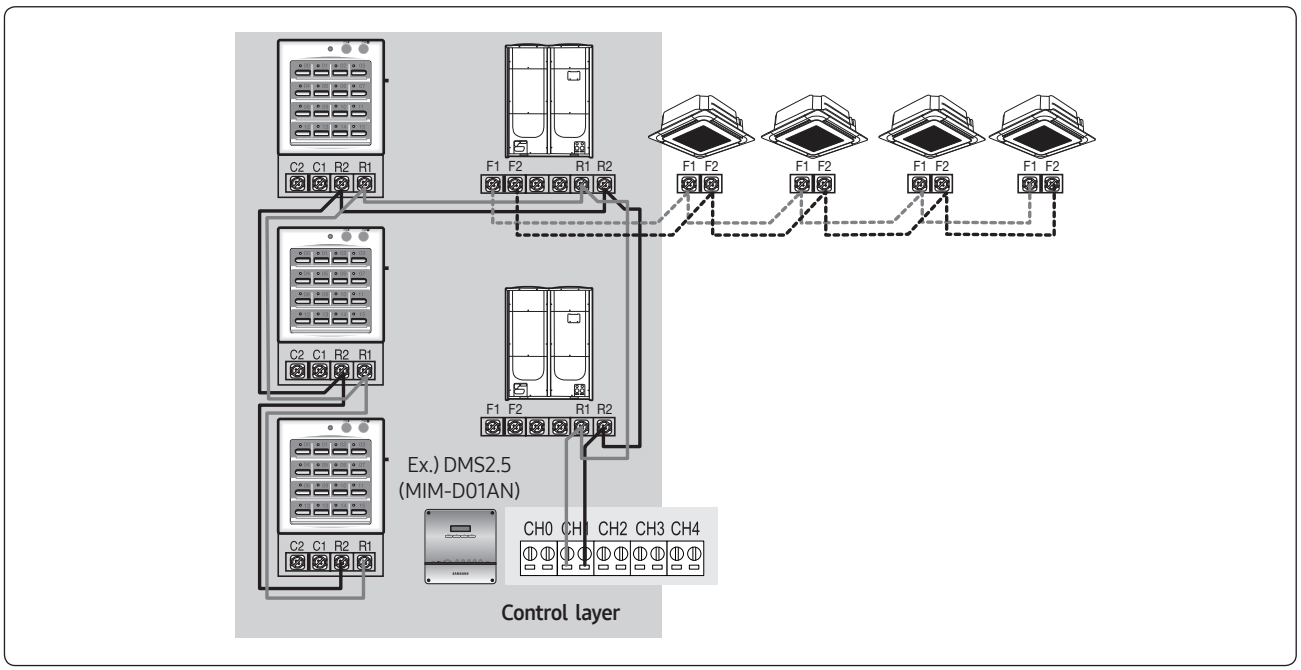
OnOff controller › MCM-A202DN (MCM-A202DRN)*

Connection with DMS2.5/BACnet GW/LonWorks GW

- Case1



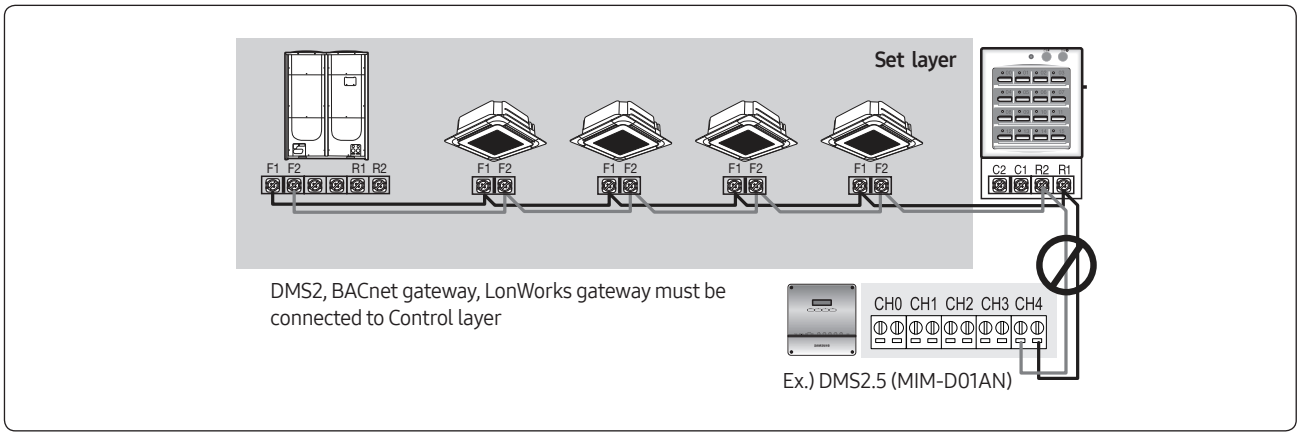
- Case2



⚠ **Caution**

- When OnOff controller is connected to Outdoor unit's F1/F2 line, you cannot connect DMS2.5 to OnOff controller's R1/R2 line.

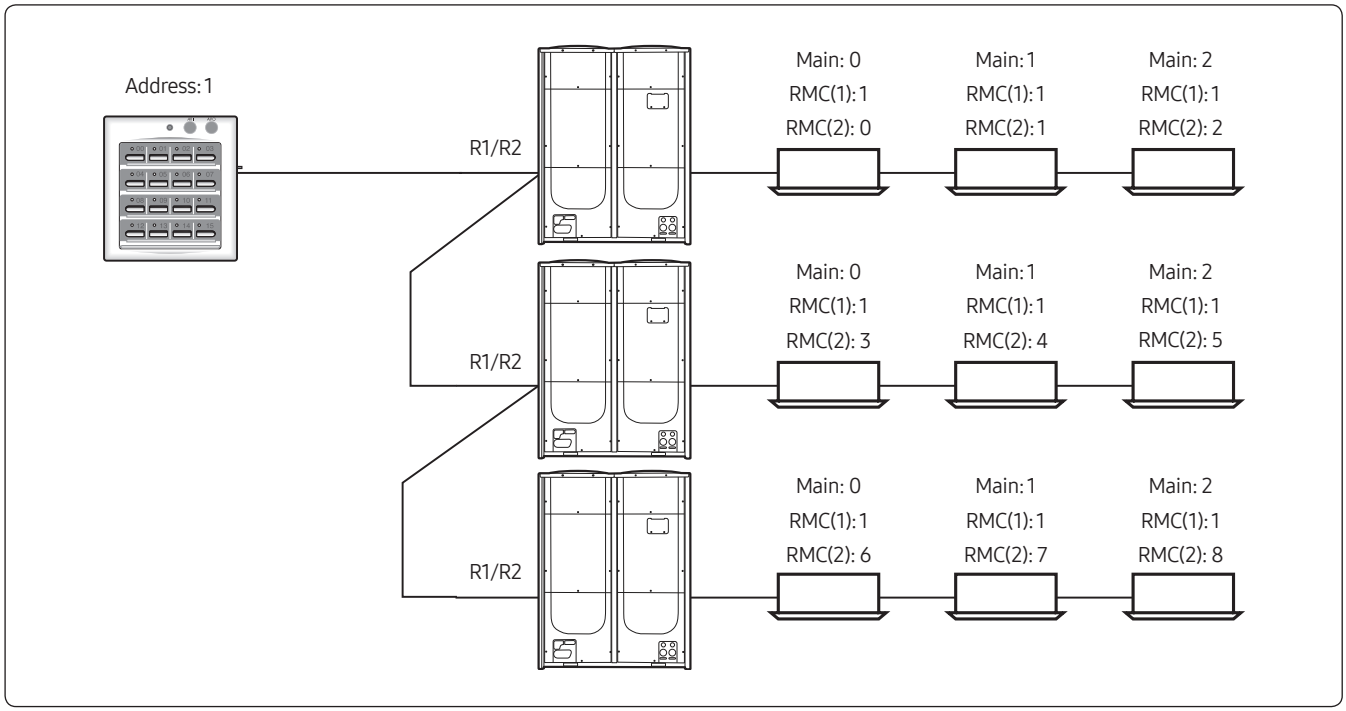
OnOff controller › MCM-A202DN (MCM-A202DRN)*



Display

Various LED display

After power reset to the OnOff controller, it carries out indoor unit tracking process.



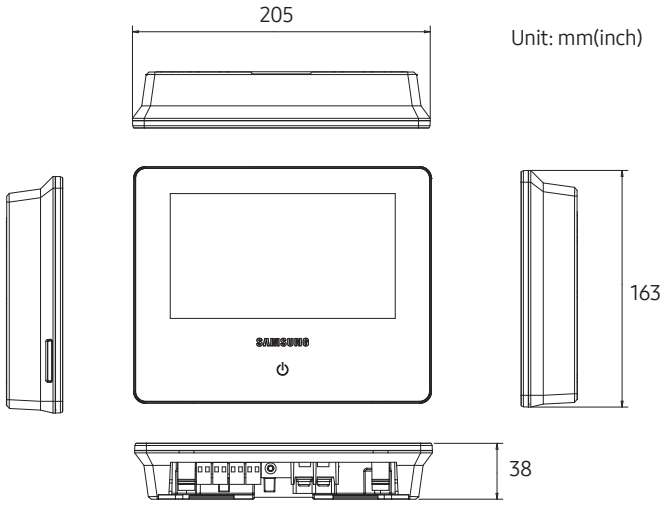
- OnOff controller only communicate with indoor units which has same RMC(1) address with OnOff controller's address.
- During tracking indoor units, LED whose number is equivalent to indoor unit RMC(2) address flickers.
  – In LED 00 → LED 01 → LED 02 → LED 03 → LED 04 → LED 05 order

()* is used in Turkey.

Touch centralized controller

MCM-A300N

Features



- 7 inch touch LCD controller
- Controls maximum 128 indoor units
- Controls maximum 12 zones
- Schedule control, Indoor unit usage restriction, View indoor unit error history

Touch centralized controller › MCM-A300N

Product specification

<table>
<tr><td colspan="2">Power supply</td><td>AC200V~240V, 50/60Hz</td></tr>
<tr><td colspan="2">Power consumption</td><td>110W</td></tr>
<tr><td colspan="2">Operating temperature range</td><td>0°C~40°C (14°F~104°F)</td></tr>
<tr><td colspan="2">Operating humidity range</td><td>30%RH~90%RH</td></tr>
<tr><td colspan="2">Communication</td><td>RS485 x1 (F1/F2 or R1/R2)</td></tr>
<tr><td rowspan="2">External communication port</td><td>Digital Output</td><td>1</td></tr>
<tr><td>Digital Input</td><td>2</td></tr>
<tr><td rowspan="3">Maximum connection length</td><td>RS485</td><td>1000m(3280ft)</td></tr>
<tr><td>Digital Output</td><td>100m(328ft)</td></tr>
<tr><td>Digital Input</td><td>100m(328ft)</td></tr>
<tr><td rowspan="2">Max. connectable number of device</td><td>Set layer</td><td>
<table>
<tr><th>Device</th><th>Number</th></tr>
<tr><td>Indoor units
(including ERV, MCU)</td><td>80 (Maximum 64 indoor units, 16 ERVs and 15 MCUs)</td></tr>
<tr><td>Outdoor unit</td><td>1</td></tr>
<tr><td>OnOff controller</td><td rowspan="3">Total 16</td></tr>
<tr><td>Touch centralized controller</td></tr>
<tr><td>Wi-Fi kit</td></tr>
</table>
</td></tr>
<tr><td>Control layer</td><td>
<table>
<tr><th>Device</th><th>Number</th></tr>
<tr><td>Indoor units
(including ERV, MCU, FCU KIT)</td><td>128</td></tr>
<tr><td>Outdoor unit
(including MIM-N01, MIM-N10, MIM-F10N, DVM CHILLER unit)</td><td>16</td></tr>
<tr><td>OnOff controller</td><td rowspan="2">16 (15 when DMS2.5, BACnet gateway, LonWorks gateway is connected)</td></tr>
<tr><td>Touch centralized controller</td></tr>
<tr><td>DMS2.5</td><td rowspan="3">Total 1</td></tr>
<tr><td>BACnet GW</td></tr>
<tr><td>LonWorks GW</td></tr>
<tr><td>Wi-Fi kit (MIM-H03N)</td><td>Total 1 (Maximum 16 indoor units, 16 outdoor units)</td></tr>
</table>
</td></tr>
</table>

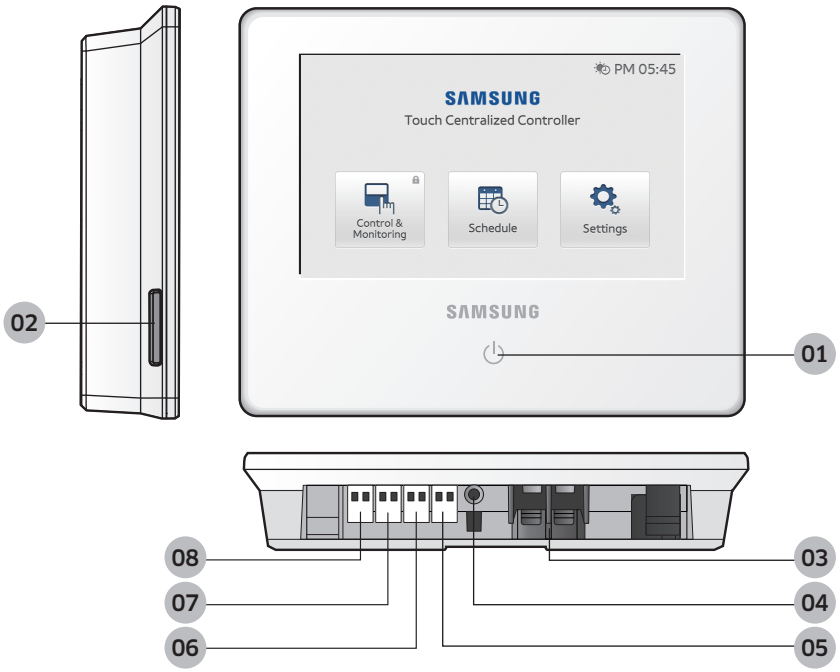
Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	DMS2.0, 2.5 (MIM-D00AN, MIM-D01AN)
	BACnet gateway (MIM-B17BN)
	LonWorks gateway (MIM-B18BN)
	Wi-Fi kit (MIM-H03N)

- Conventional communication outdoor unit requires interface module (MIM-N01) to establish connection
- MIM-B13D, MIM-B13E, MIM-B04A Interface modules cannot be connected.
- To connect ERV, MIM-N10 is required.
- To connect FCU KIT or Samsung FCU, MIM-F10N is required.

Touch centralized controller › MCM-A300N

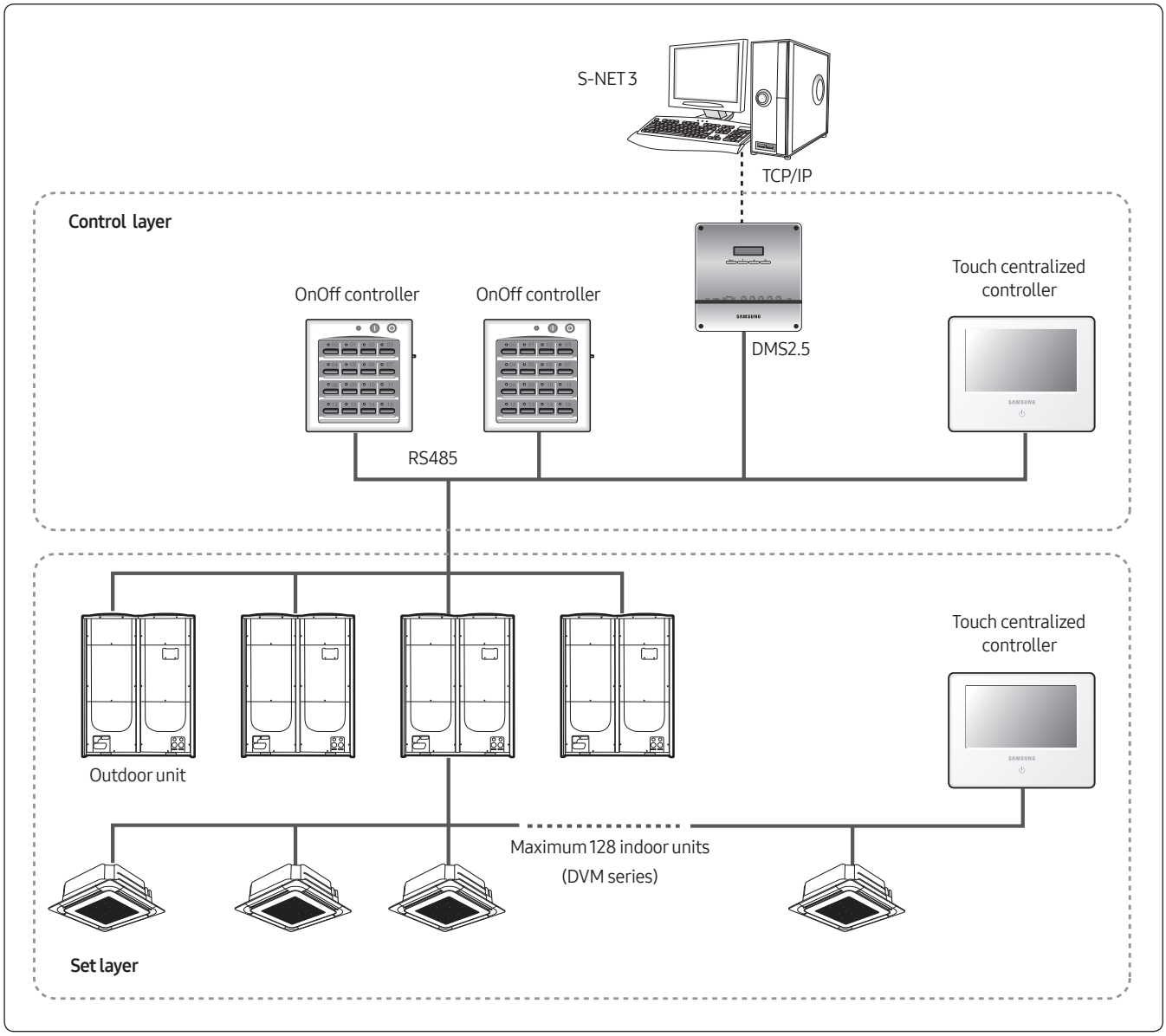
Description of parts



No.	Name	Description
01	LCD On/Off button and Indoor unit operation indicator	• Button: Turn on/off the LCD screen • Indicator – Blue: Turns on if any one of the indoor unit is in operation. – Red: Turns on if any one of the indoor unit has an error
02	SD card slot	Use to back-up data on SD card or updating S/W
03	Power terminal	Connect AC 100~240 V, 50/60 Hz power
04	Reset button	Use to reset Touch centralized controller
05	DI-1 terminal	Terminal block for connecting digital input signal from 3rd party device.
06	DI-2 terminal	Terminal block for connecting digital input signal from 3rd party device.
07	DO Terminal	Terminal block for digital output signal. • Short: When any one of indoor units turns On • Open: When all indoor units are off
08	485 communication terminal	• When connecting to set layer: Connect to outdoor unit or indoor unit (F1/F2) • When connecting to control layer: Connect to outdoor unit, OnOff controller, Touch centralized controller or DMS2.5 (R1/R2)

Touch centralized controller › MCM-A300N

Connection diagram



Touch centralized controller › MCM-A300N

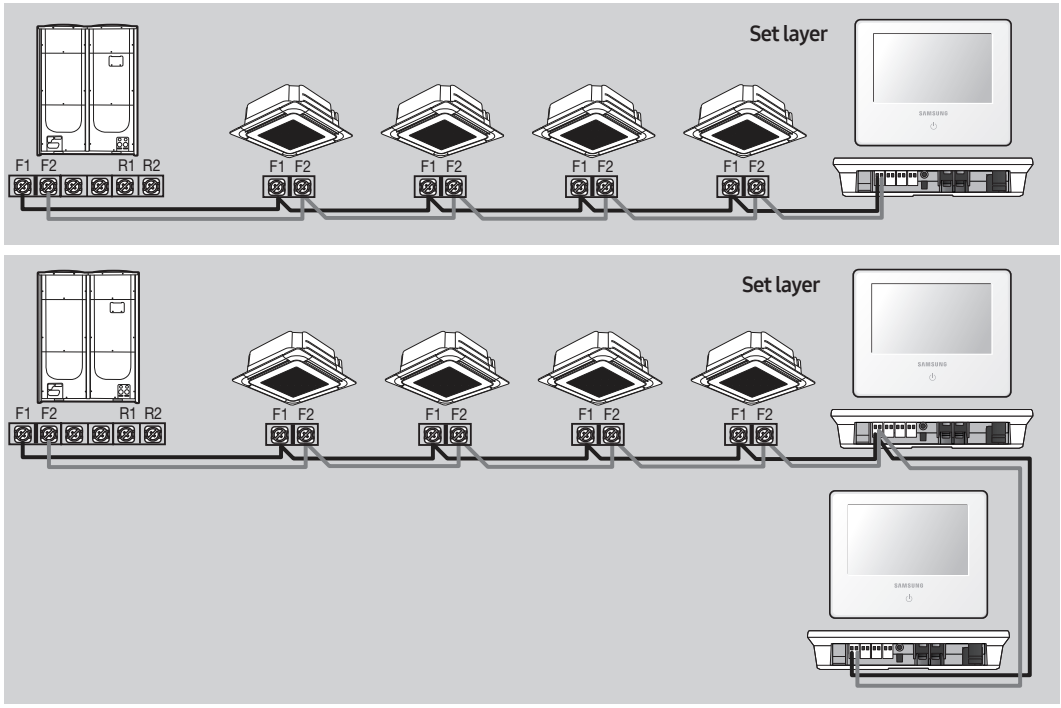
Connection

Set layer connection (F1/F2)

- When Touch centralized controller only controls indoor units of 1 outdoor unit, then it can be connected to F1/F2 line of outdoor unit or indoor unit.
- Max. 16 Controllers can be connected to same communication line.

⚠ Caution

- Connectable controller: OnOff controller (MCM-A202DN), Touch centralized controller (MCM-A300N), Wi-Fi kit (MIM-H03N)



Control layer connection (R1/R2)

- Max. 16 Controllers can be connected to same communication line (In case of DMS2/BACnet gateway/LonWorks gateway connection, Max.15)
- Max. 16 outdoor units can be connected to same communication line (Includes interface module MIM-N01).

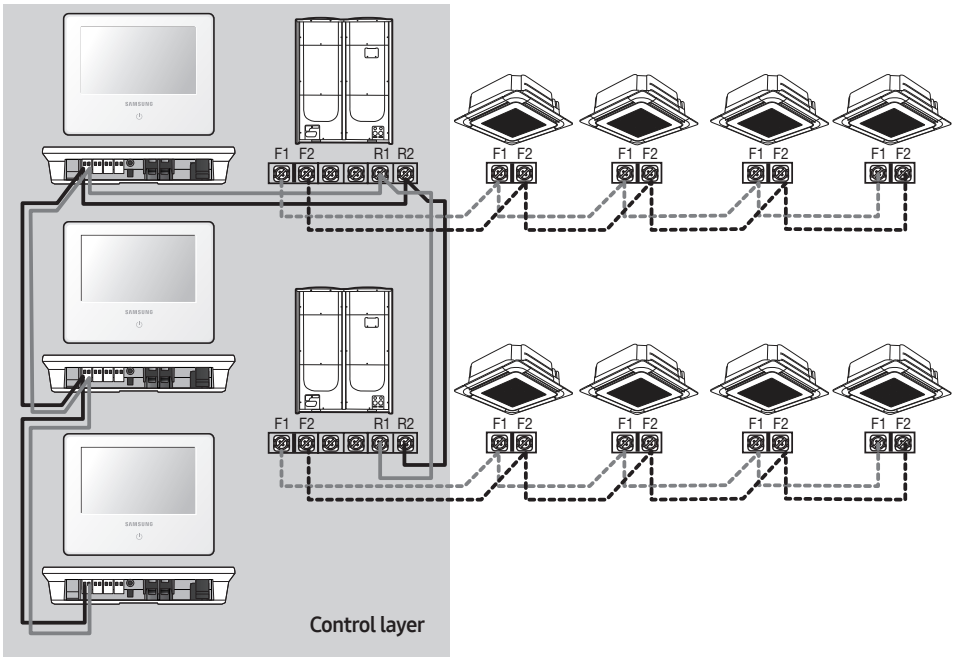
⚠ Caution

- Connectable controller
  - Touch centralized controller (MCM-A300N).
  - OnOff controller (MCM-A202DN).
  - DMS2.5(MIM-D01AN), BACnet gateway (MIM-B17BN), LonWorks gateway (MIM-B18BN): Only one of the three models.

Touch centralized controller › MCM-A300N

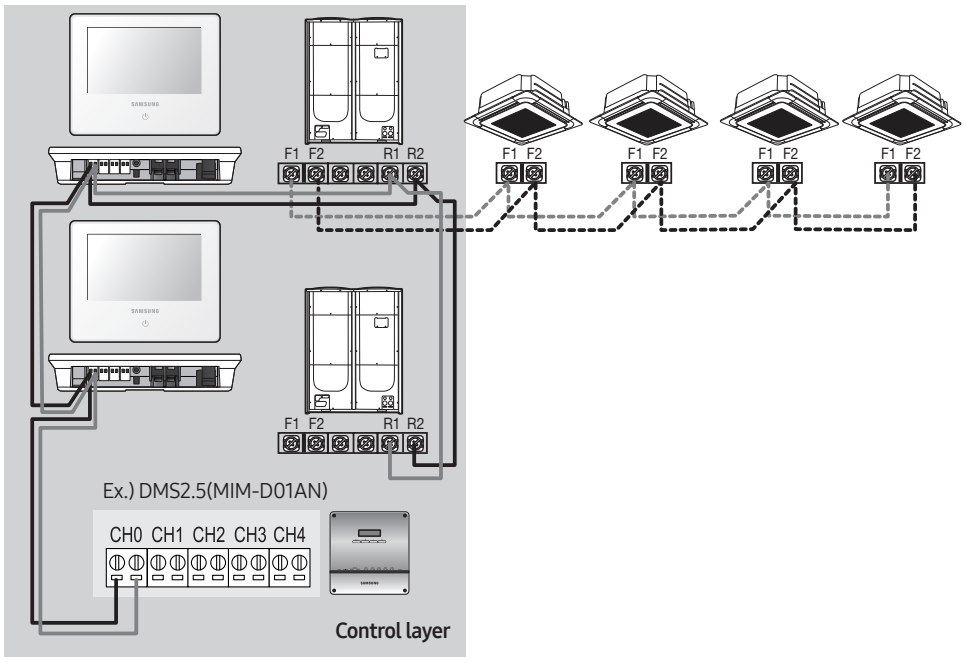
Connection with outdoor unit

When Touch centralized controller controls indoor units of multiple outdoor units, then it should be connected to R1/R2 line of outdoor units.



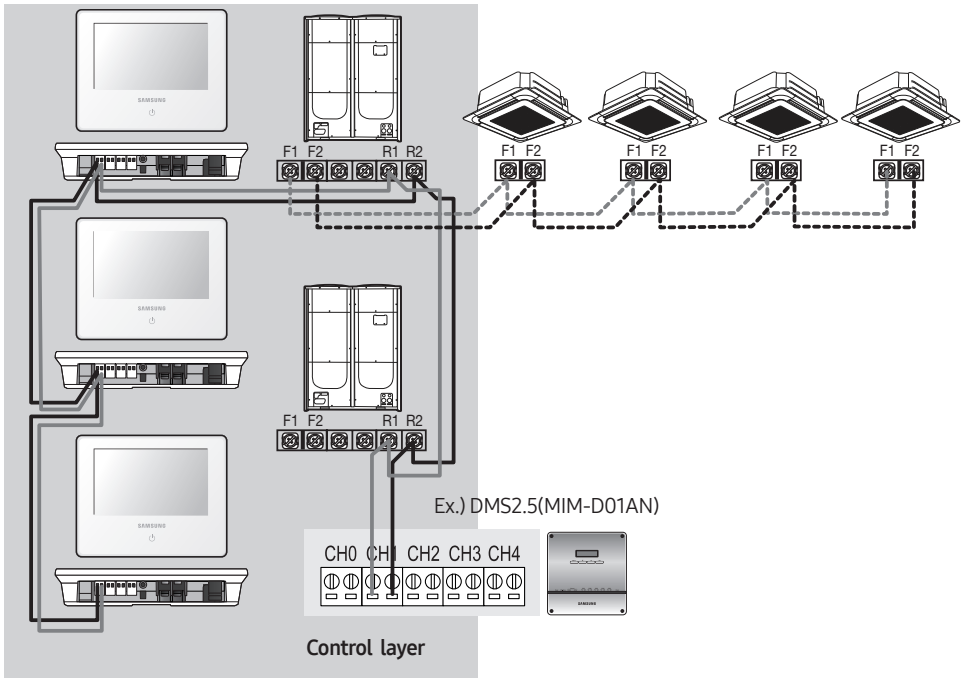
Connection with DMS2.5/BACnet GW/LonWorks GW

- Case1



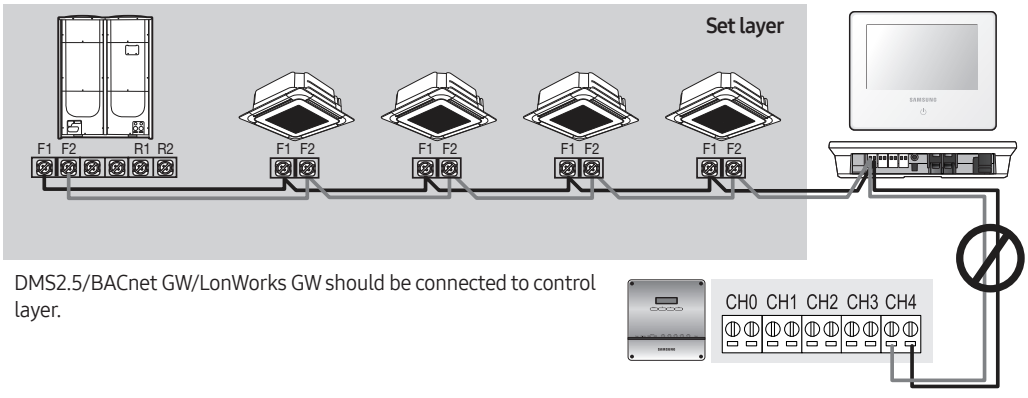
Touch centralized controller › MCM-A300N

- Case2



⚠ **Caution**

- DMS2.5, BACnet GW, and LonWorks GW cannot be connected to F1/F2.



Touch centralized controller › MCM-A300N

Main function

Zone control

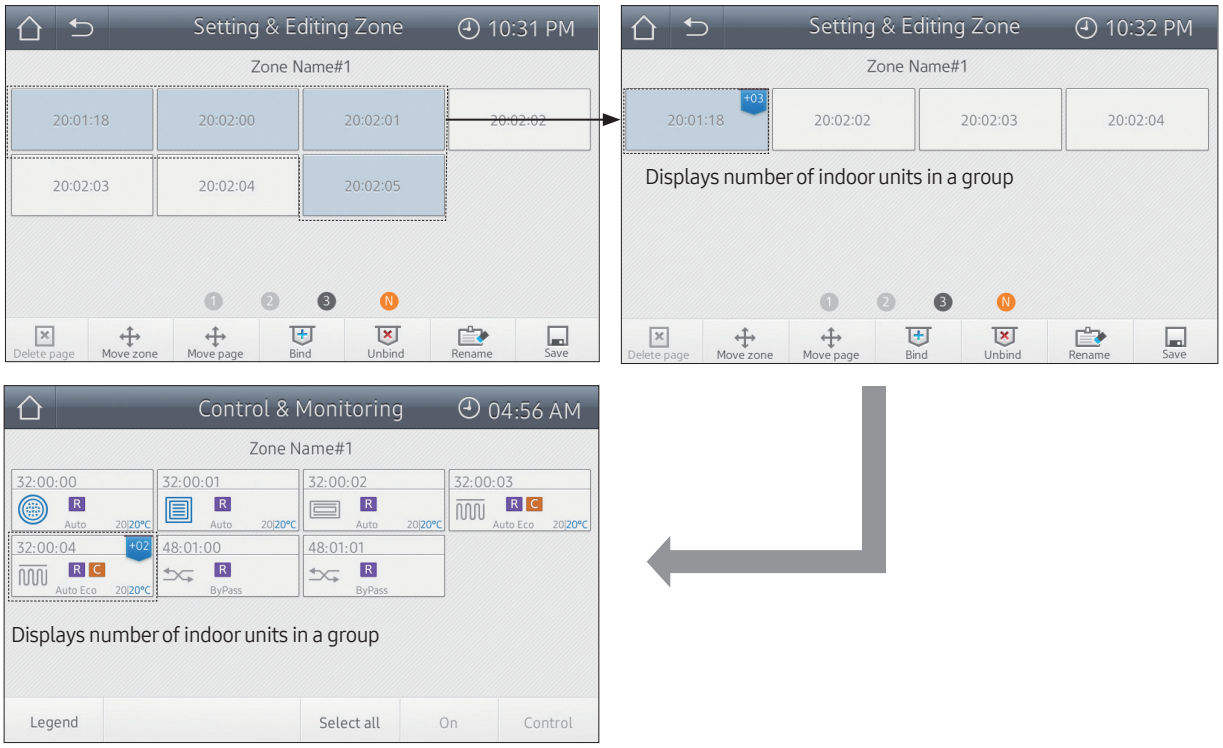
- You can create a zone by grouping multiple indoor units
- Maximum 12 zones can be created (Total up to 128 indoor units)

- You can set the name of Zone/indoor unit
- You can set the zone icon for purpose of each zone.

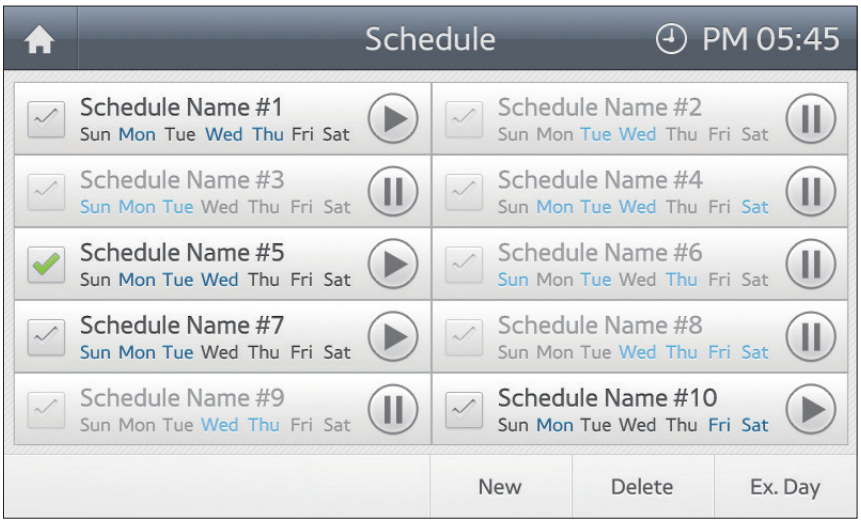
Touch centralized controller › MCM-A300N

Grouping indoor units

Function to control and monitor multiple indoor units that are grouped and expressed as single indoor unit



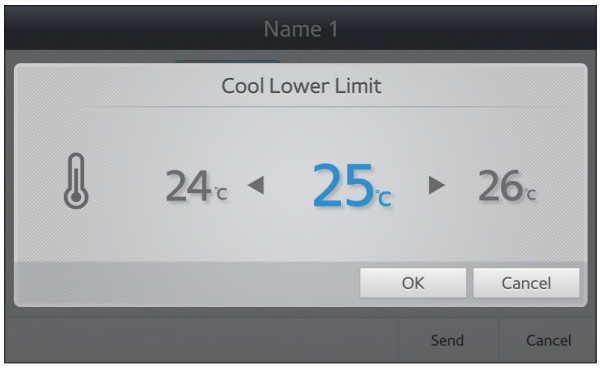
Schedule control

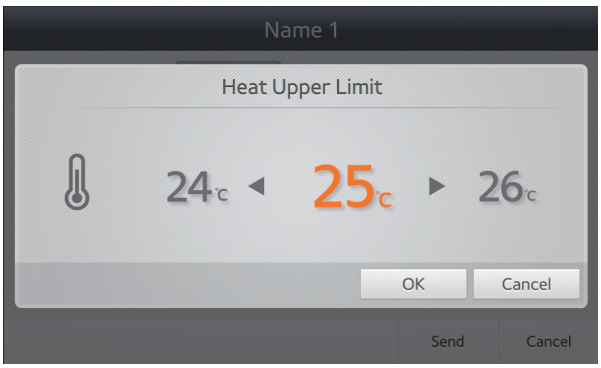


- Maximum 10 schedules can be created
- Excluded day setting is possible

Setting indoor unit usage restriction

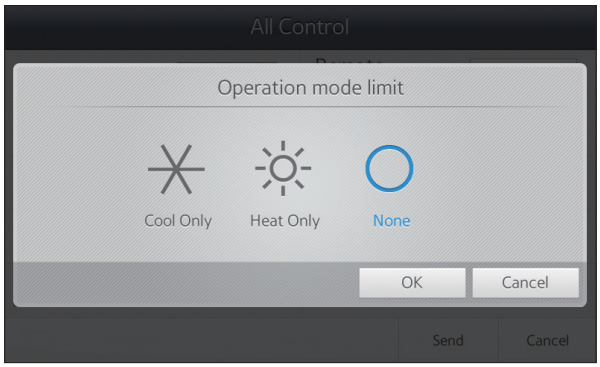
Cool lower limit/Heat upper limit





- It can set the lower temperature limit in Cool mode and the upper temperature limit in Heat mode.
- This setting can be changed by other touch centralized controller and DMS2.5.

Operation mode limit



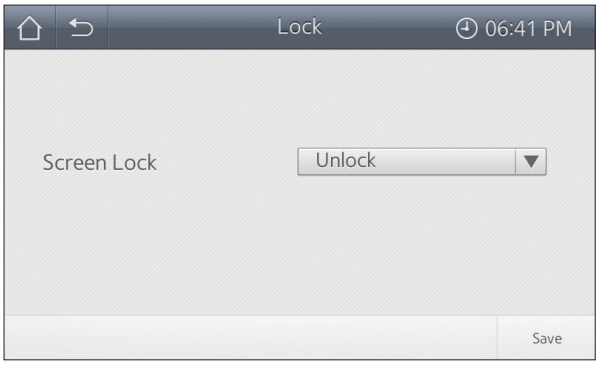
- To prevent the wrong operation mode setting, it can limit the operation mode of indoor unit.
  - Cool only: Heat, Auto (Heat) operation mode is restricted
  - Heat only: Cool, Dry, Auto (Cool) operation mode is restricted
- This setting can be changed by other touch centralized controller and DMS2.5.

Touch centralized controller › MCM-A300N

Lock function

You can lock the functions of Touch centralized controller.

Screen lock

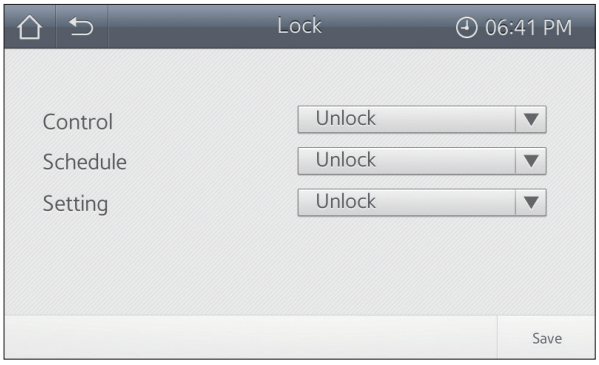


- You can lock the screen.
  Password is required when you try to use it.

Operating panel lock

- You can set the access lock of each item of operating panel. The locked item will be deactivated.

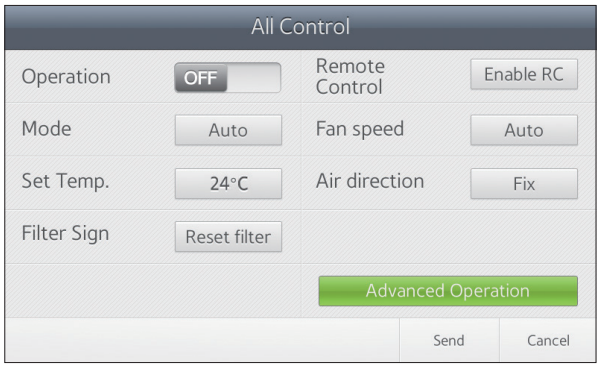
Menu lock

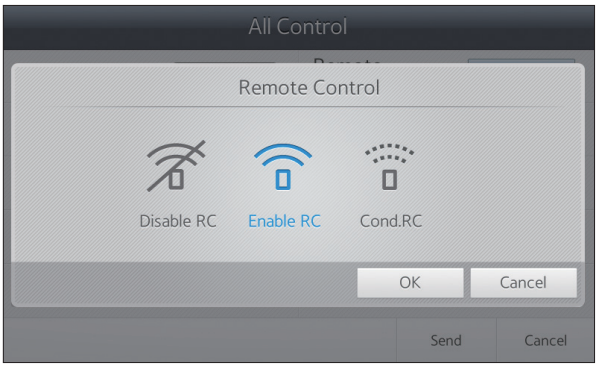


- You can set the access lock of each menu.
  Password is required when you try to use it.

Remote controller usage restriction

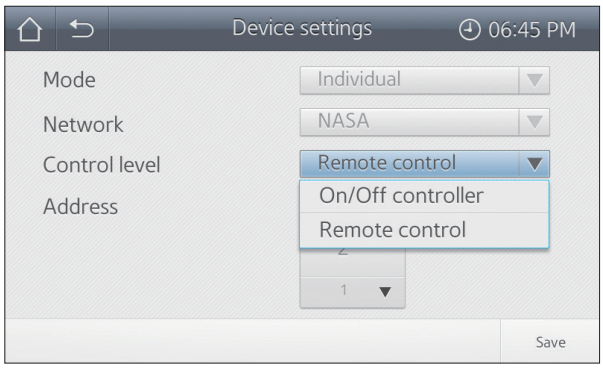
Indoor unit operating panel





- You can set the controller restriction.
- You can set the type of controller which will be restricted when "Disable RC" is applied from operating panel. [Settings] → [Device settings] → [Control level]

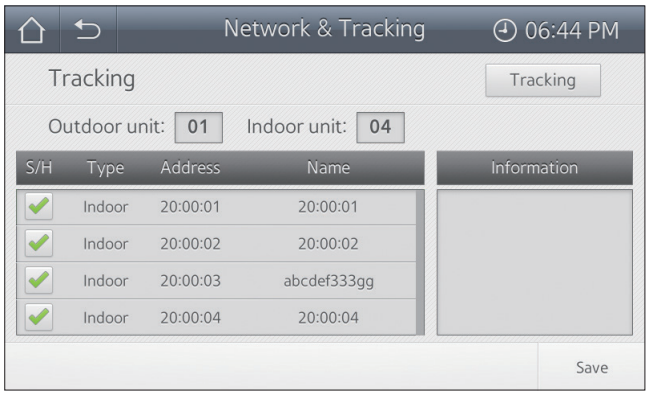
Device settings



- You can set the type of controller which will be restricted when "Disable RC" is applied from operating panel.
  - Remote controller: Restrict wired/wireless remote controller usage, OnOff controller usage is possible
  - OnOff controller: Restricts wired/wireless remote controller and OnOff controller usage

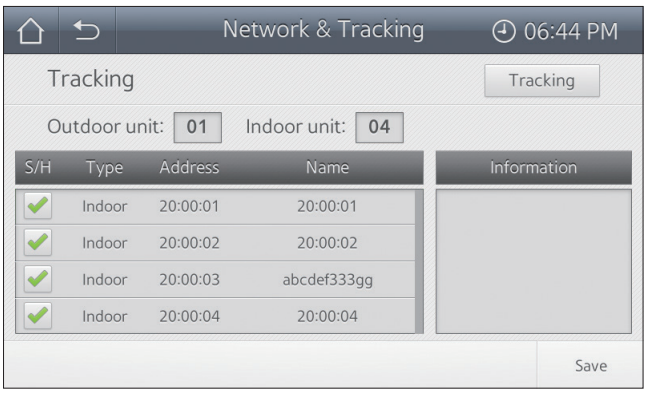
Touch centralized controller › MCM-A300N

Tracking



- Detects all the indoor and outdoor units that are connected to communication line of Touch centralized controller
- When multiple number of Touch centralized controller is connected together, you can use check box of S/H (Show/Hide) to select indoor units that will be controlled from each Touch centralized controller.

Hiding indoor unit

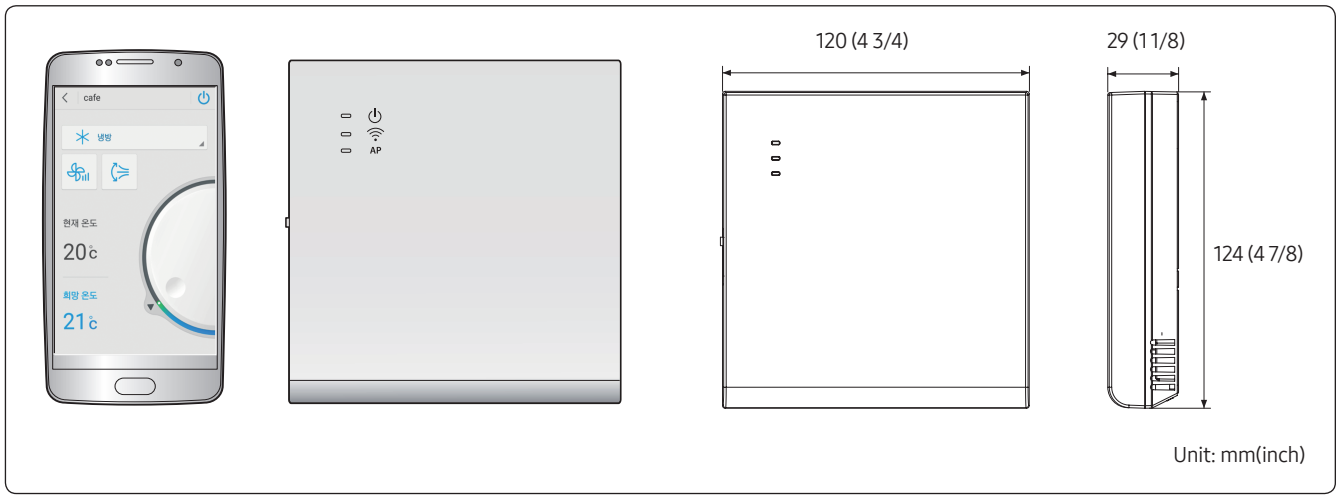


- Indoor unit with no check mark on S/H (Show/Hide) check box, will not be controlled and monitored from the Touch centralized controller.

Wi-Fi kit

MIM-H03N (MIM-H03RN)*

Features



- Control and monitoring system air conditioner by mobile phone. (Max. 16 units)
- Weekly schedule setting
- Group control and monitoring (ON/OFF)
- Current/daily/weekly/monthly energy usage data of outdoor unit. (This function is available in certain outdoor unit model)

()* is used in Turkey.

Wi-Fi kit > MIM-H03N (MIM-H03RN)*

Product specification

<table>
<tr><td colspan="2">Power supply</td><td colspan="3">DC 12V</td></tr>
<tr><td colspan="2">Power consumption</td><td colspan="3">6W</td></tr>
<tr><td colspan="2">Operating temperature range</td><td colspan="3">0°C~40°C (32°F~104°F)</td></tr>
<tr><td colspan="2">Operating humidity range</td><td colspan="3">30%RH~90%RH</td></tr>
<tr><td rowspan="2">Communication</td><td>Wired</td><td colspan="3">RS485 (Communication with outdoor unit)</td></tr>
<tr><td>Wireless</td><td colspan="3">Wi-Fi 802.11b, g, n, 2.4 GHz (Communication with AP)</td></tr>
<tr><td rowspan="2">Maximum connection length</td><td>RS485</td><td colspan="3">1000m (3280ft)</td></tr>
<tr><td>Wi-Fi</td><td colspan="3">20m(66ft) (It depends on AP specification)</td></tr>
<tr><td rowspan="11">Max. connectable number of device</td><td rowspan="6">Set layer</td><td>Device</td><td colspan="2">Number</td></tr>
<tr><td>Indoor units
(including ERV, MCU kit)</td><td colspan="2">16 units. (In case of more than 16 units connection, it displays only 16 units in ascending order of main address.)</td></tr>
<tr><td>Outdoor units</td><td colspan="2">1 unit</td></tr>
<tr><td>OnOff controller</td><td colspan="2" rowspan="3">16 units
(Including Wi-Fi kit Max.4)</td></tr>
<tr><td>Touch centralized controller</td></tr>
<tr><td>Wi-Fi kit</td></tr>
<tr><td rowspan="5">Control Layer</td><td>Device</td><td colspan="2">Number</td></tr>
<tr><td>Indoor units
(including ERV)</td><td colspan="2">16 units.</td></tr>
<tr><td>Outdoor units
(Interface module, ERV interface module)</td><td colspan="2">16 units.</td></tr>
<tr><td>OnOff controller</td><td rowspan="2">16 units.</td><td rowspan="5">Total 16 units</td></tr>
<tr><td>Touch centralized controller</td></tr>
<tr><td>DMS2.5</td><td rowspan="2">1 unit</td></tr>
<tr><td>BACnet GW</td></tr>
<tr><td>Wi-Fi kit</td><td>4 unit</td></tr>
</table>

- Max.5 mobile app users per1 Wi-Fi kit.
- Max.4 Wi-Fi kit registration per1 user account.
- Controller: Controllers which can connect to Set layer (F1/F2) including Wi-Fi kit.

()* is used in Turkey.

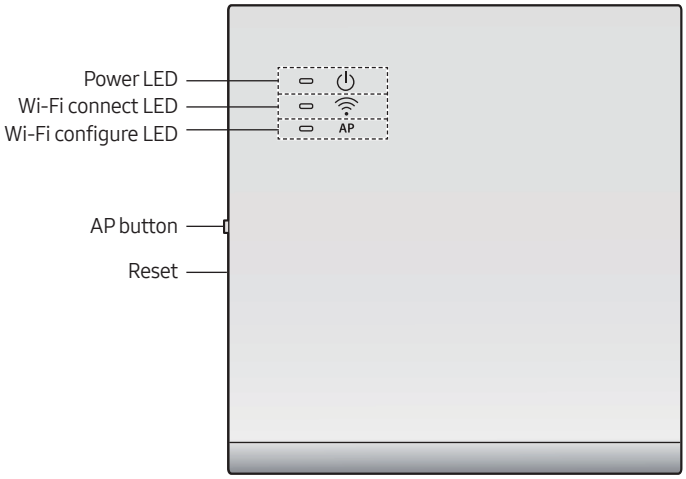
Wi-Fi kit > MIM-H03N (MIM-H03RN)*

Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳✳✳
ERV	AM✳✳✳✳S✳✳✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	Wi-Fi kit (MIM-H03N)

- To connect ERV, MIM-N10 is required.
  To connect FCU KIT or Samsung FCU, MIM-F10N is required.

Description of parts



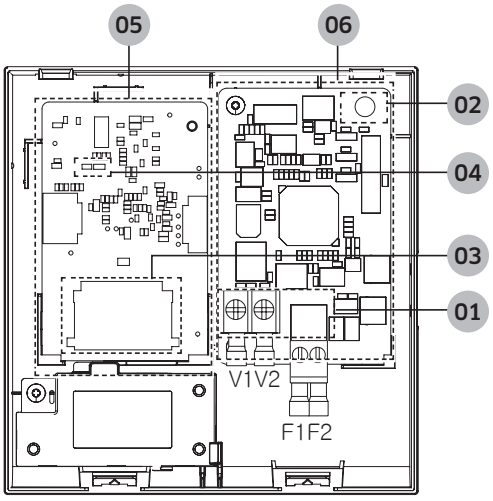
LED display information

No	LED information	Power	Wi-Fi Connect	Wi-Fi Configure
01	Initialized	ON	ON	ON
02	Normal	ON	ON	OFF
03	AP connection OK. but, internet is not connected	ON	Blinking	OFF
04	Air conditioner searching OK. but AP connection is not completed.	ON	OFF	OFF
05	Wi-Fi modem is in malfunction	Blinking	Blinking	Blinking
06	Searching AP (AP mode)	ON	OFF	ON
07	Searching air conditioner	Blinking	Blinking	OFF
08	No air conditioner information	Blinking	OFF	OFF
09	Inspecting network PBA	ON	Blinking	Blinking

()* is used in Turkey.

Wi-Fi kit > MIM-H03N (MIM-H03RN)*

No	LED information	Power	Wi-Fi Connect	Wi-Fi Configure
10	Requesting a token (AP mode)	ON	OFF	Blinking

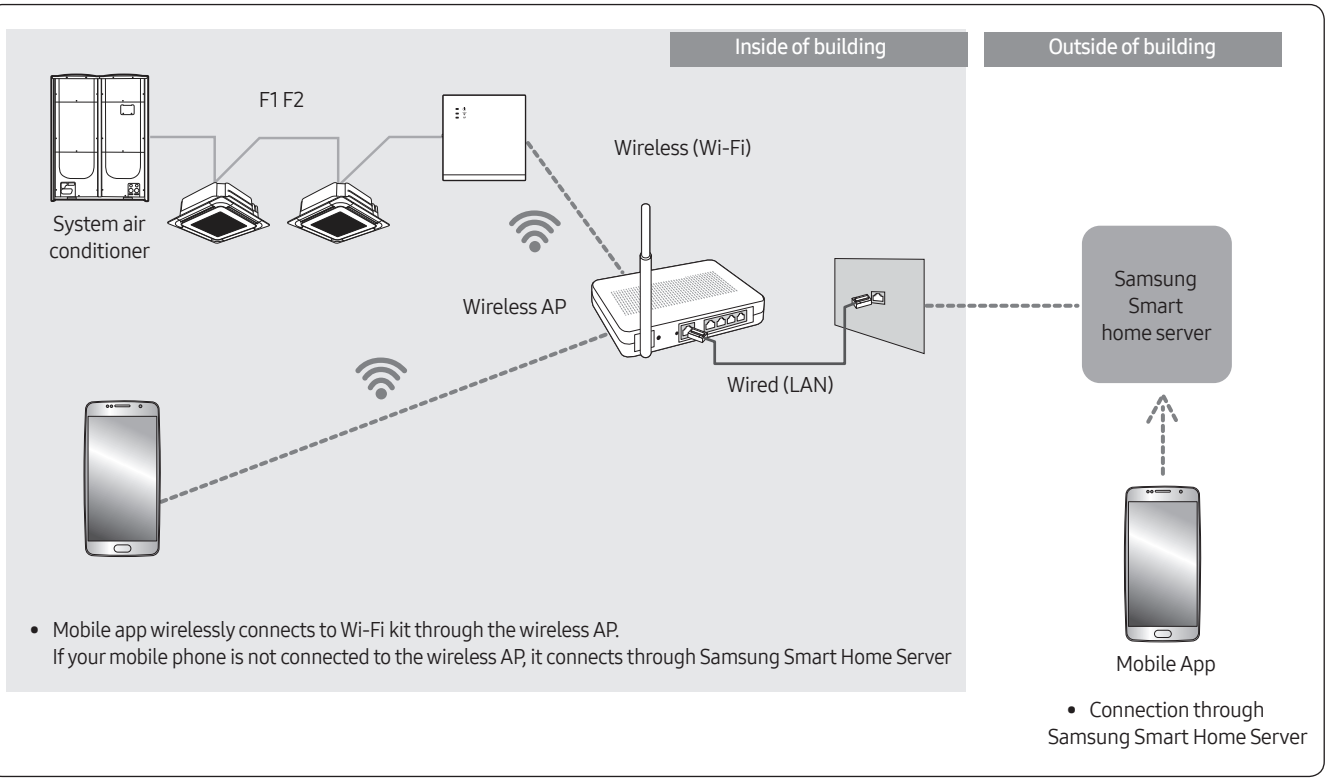


No.	Contents
01	Power/communication connection terminal
02	Tracking/Initializing button *
03	SD card slot
04	LED
05	Network PBA
06	Interface module PBA

* Tracking: Press button for1 or more second.
Initializing: Press button for more than 5 seconds

Connection diagram

Wi-Fi kit connection



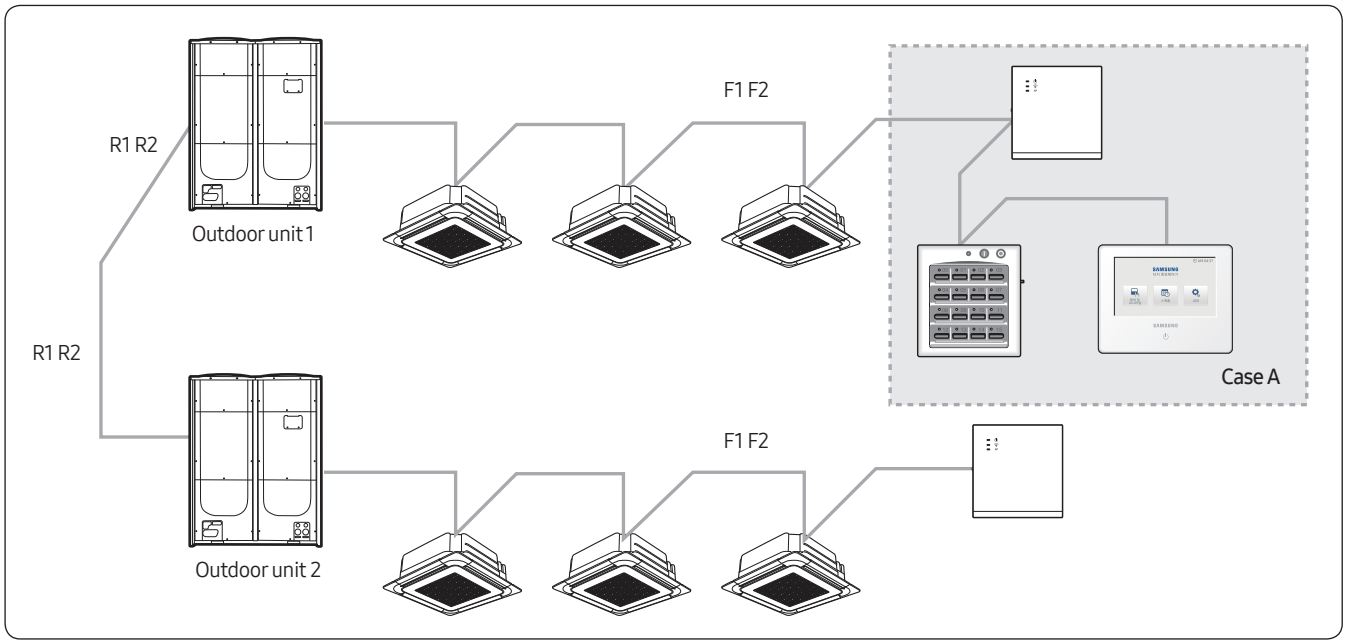
()* is used in Turkey.

Wi-Fi kit > MIM-H03N (MIM-H03RN)*

Connection with controllers

Case A (Set layer): Indoor units of outdoor unit 1 will be controlled.

- Wi-Fi kit is connected to Set layer only.
- If Wi-Fi kit uses "Multi tenant" fuction, then OnOff controller can no be use together.



Note

- If controllers set “Remote controller restriction”, then Wi-Fi kit is also restricted.

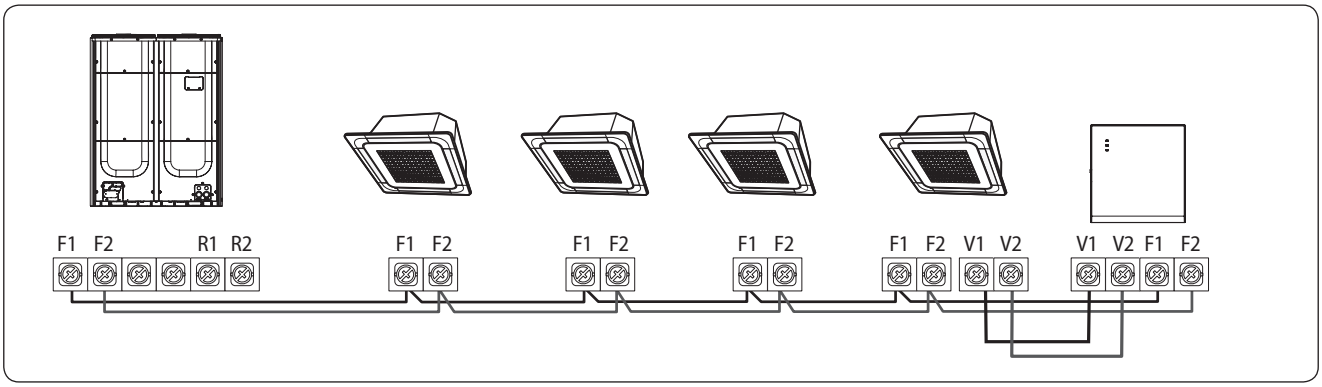
()* is used in Turkey.

Wi-Fi kit › MIM-H03N (MIM-H03RN)*

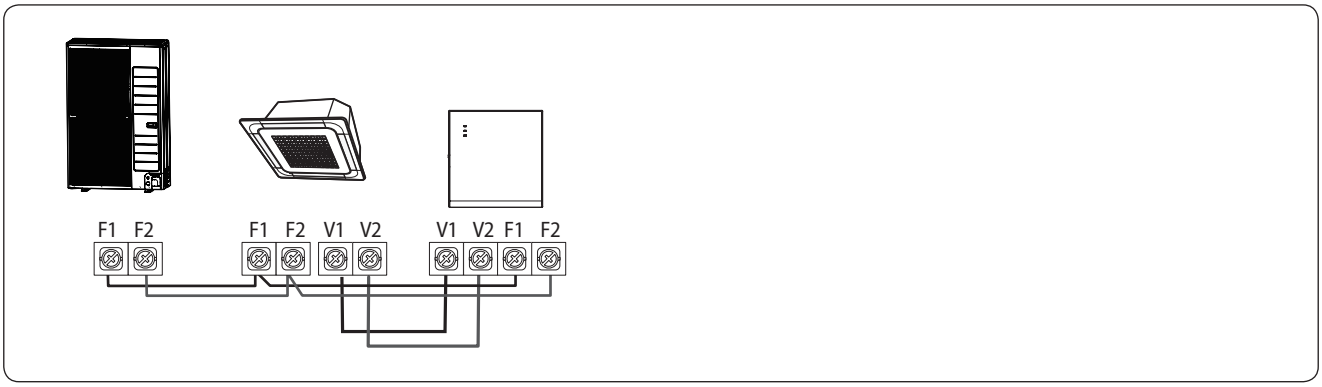
Connection

1) When connected to a single outdoor unit (F1-F2)

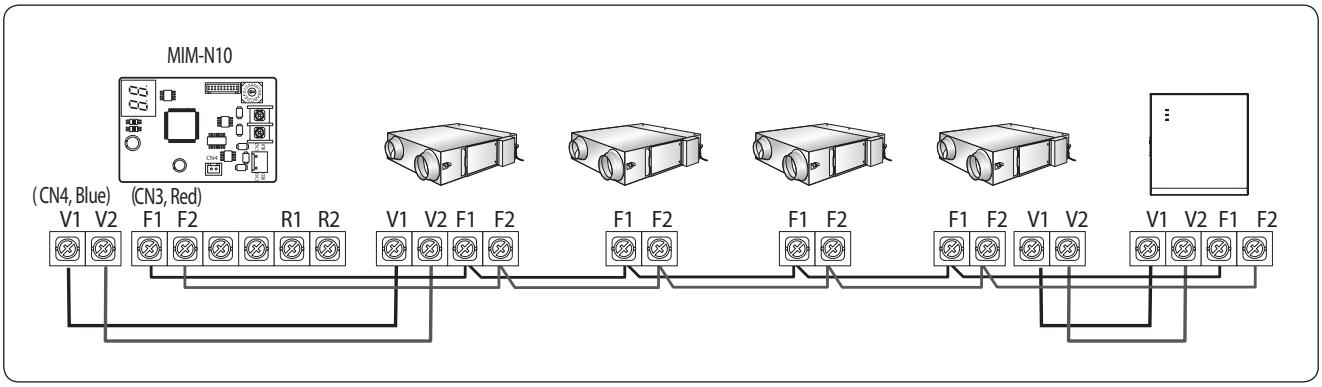
※ Connection diagram of Wi-Fi kit



‹ Connecting the Wi-Fi kit to a multi type product ›



‹ Connecting the Wi-Fi kit to a single type product ›



‹ Connecting the Wi-Fi kit to a ERV product ›

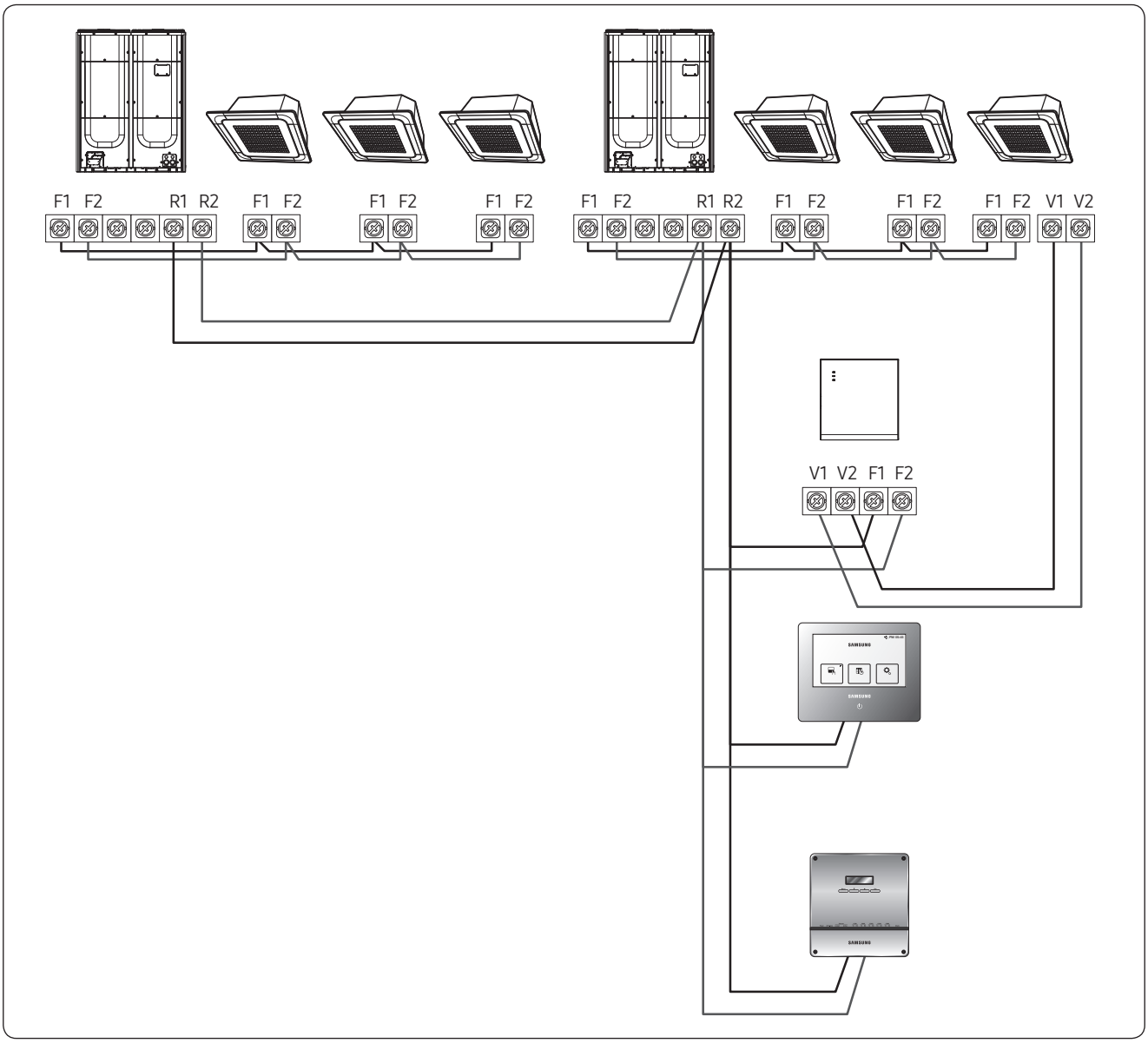
⚠ **Caution**

- New communication applied unit only

()* is used in Turkey.

Wi-Fi kit › MIM-H03N (MIM-H03RN)*

2) When connected to two or more outdoor units (R1-R2)



- Connect F1 and F2 of the Wi-Fi kit to R1 and R2 of the outdoor unit.
- Connect the power supply to V1 and V2 of the indoor unit.
- Can install together with other controllers such as touch centralized controller and DMS 2.5.

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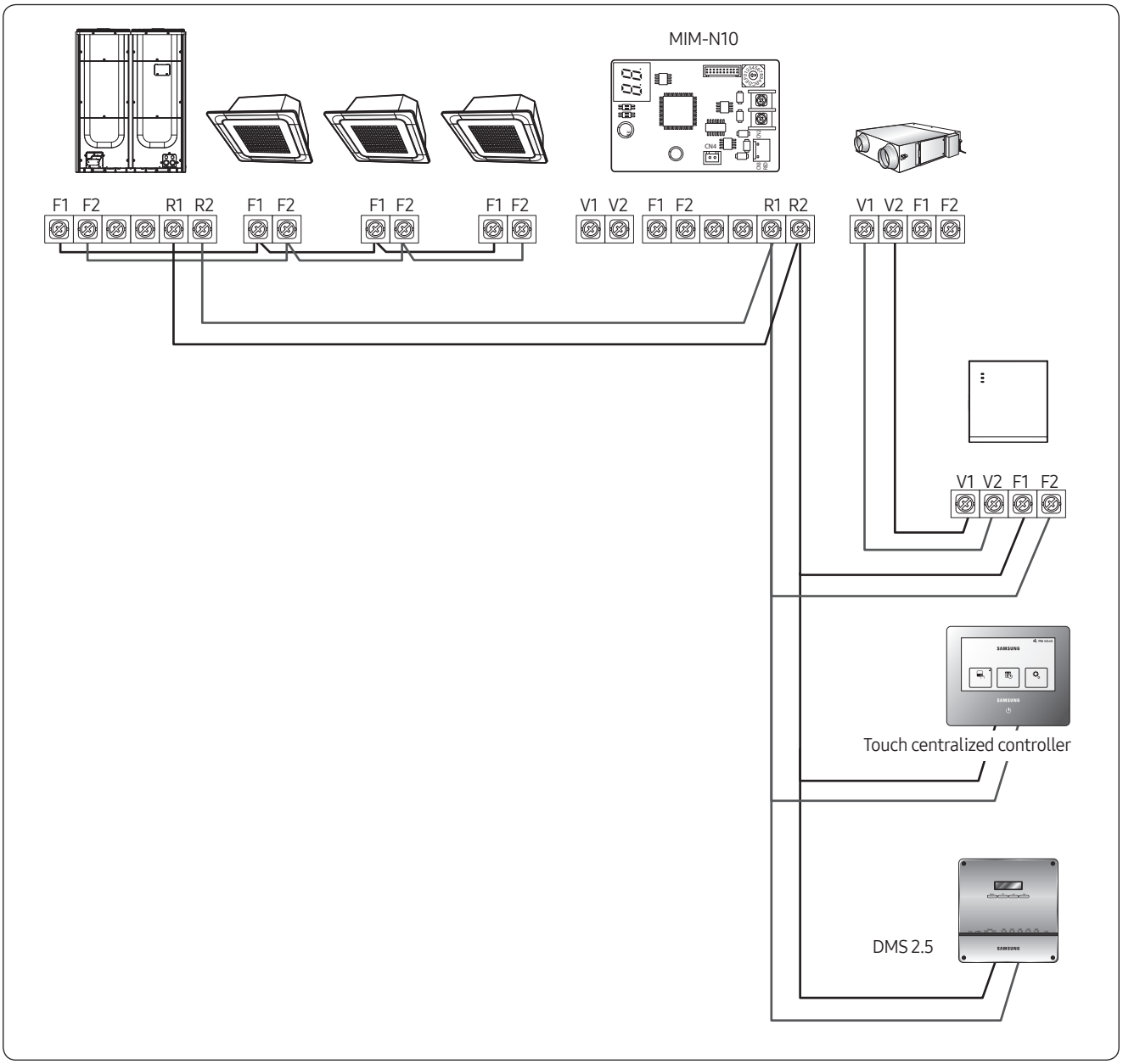
Wi-Fi kit > MIM-H03N (MIM-H03RN)*

3) When installing with ERV (R1-R2)



- Connect F1 and F2 of the Wi-Fi kit to R1 and R2 of the outdoor unit.
- Connect the power supply to V1 and V2 of the indoor unit or ERV.
- Can install together with other controllers such as Touch centralized controller and DMS 2.5.

⚠ **Caution**

- Up to 16 indoor and outdoor units can be connected.
- When it is connected to two or more outdoor units, some functions including energy monitor can be restricted.

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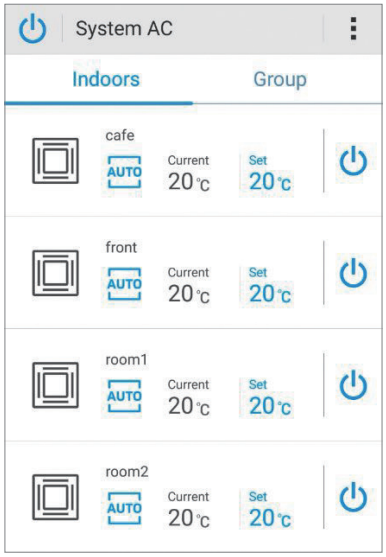
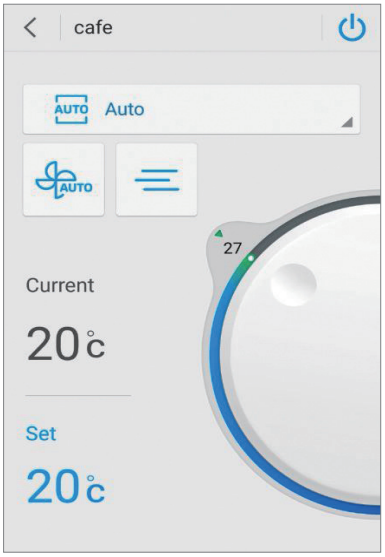
Main function

Control and monitoring by mobile phone



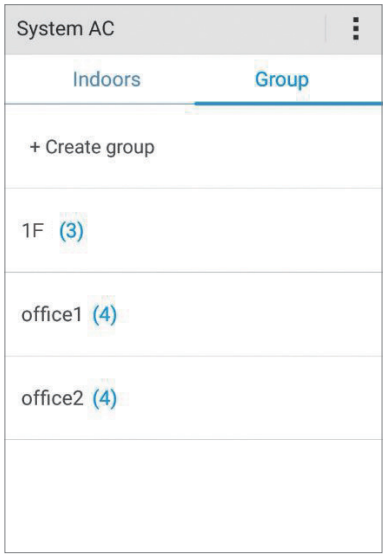


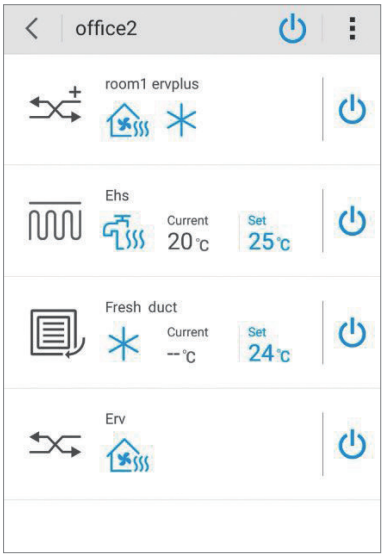
- You can control all connected indoor units of Wi-Fi kit (Max.16 units)
- You can turn ON/OFF all indoor units together.
- You can control individual indoor unit in detail.
  (Detailed settings: Operation ON/OFF, operation mode, temperature setting, fan speed, air flow direction)
- You can rename indoor units.

Note

- In case of more than 16 units are connected, Wi-Fi kit displays only 16 units in ascending order of main address.

Group control





- You can create group. (Max.16 groups)
- You can turn ON/OFF all indoor units of group at once.
- If you select individual indoor unit of group, then you can control it in detail. (Detail setting: Operation ON/OFF, operation mode, temperature setting, fan speed, air flow direction)

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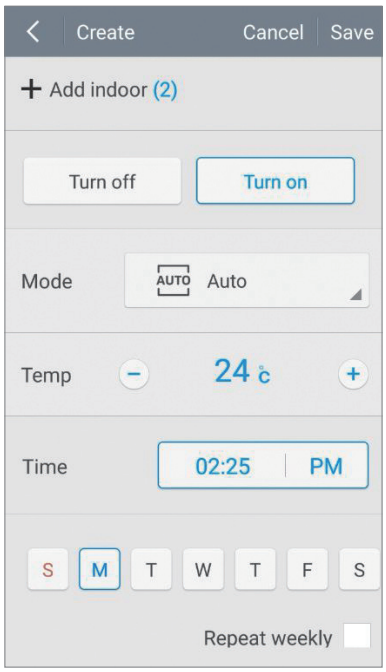
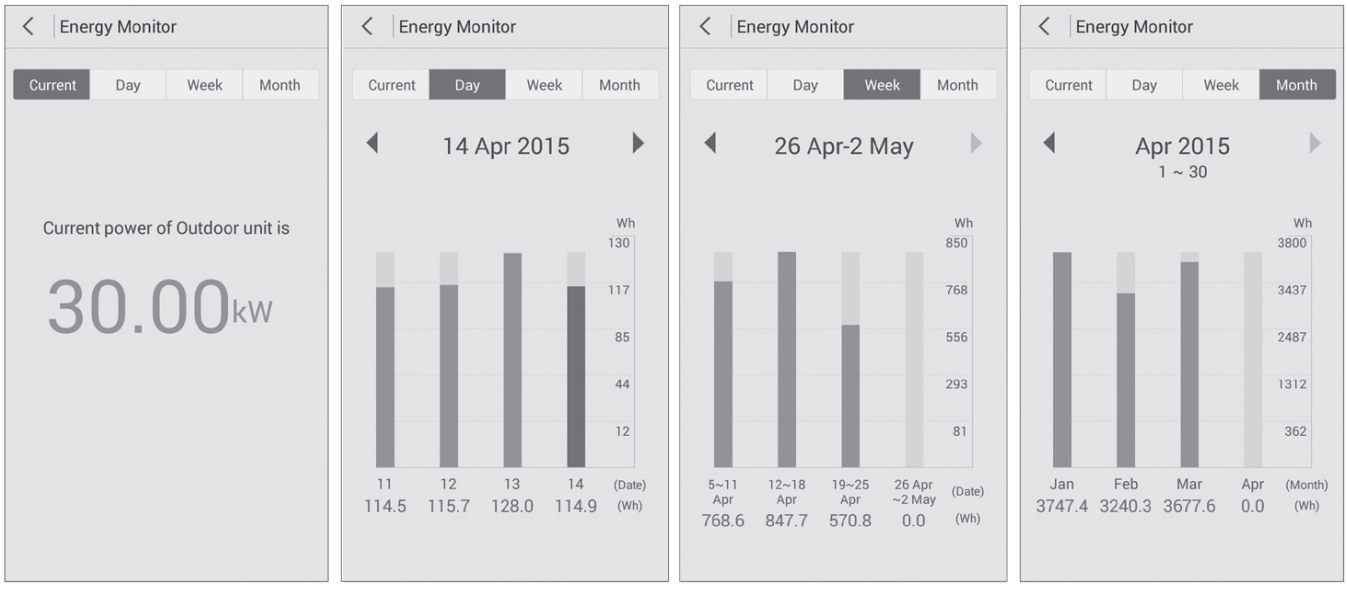
Schedule control



- You can set weekly schedule.
  (Max. 10 schedules. Possible to repeat it within the period)
- You can apply the schedule setting to multiple indoor units.
- You can set detailed operation if you set "On" schedule.
  (Operation mode, temperature setting)

Energy monitor

- You can check the current/daily/weekly/monthly energy usage data of outdoor unit.
  (This function is available in certain outdoor unit model)



Note

- Energy Monitor displays power consumption which is different from power consumption shown on electricity bills.
  - This function is only available for the products that provides energy usage data.
  - When a Wi-Fi kit is connected to two or more outdoor units, the Energy Monitor does not appear.

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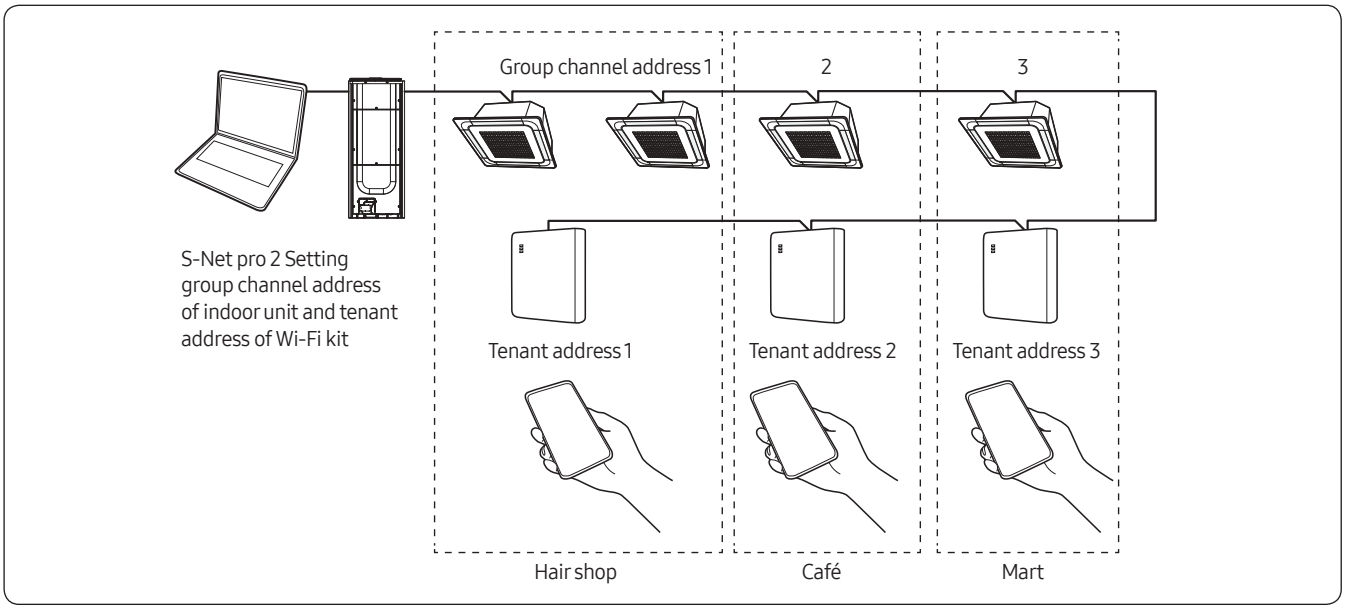
Setting individual usage of indoor unit

For individual usage of indoor units connected to outdoor unit, installing multiple number of Wi-Fi kit allows classifying indoor units by group channel address (RMC1).



Note

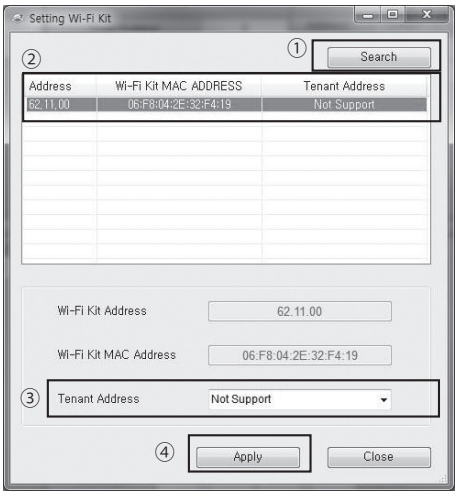
- Multi tenant function is to set controlling and monitoring of indoor units assigned to one group channel address (RMC1) by identical tenant address of Wi-Fi kit.

- Install Wi-Fi kits as number of groups to use.
  - Maximum number of Wi-Fi kit that can be connected to outdoor unit module is 4.
  - Maximum number of indoor unit that can be connected to Wi-Fi kit is 16.

Note

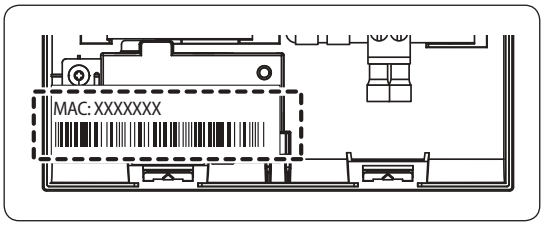
- You can change names of each Wi-Fi kit on your smartphone. You cannot change names of other connected smartphones.

- Set tenant address to each Wi-Fi kit by Wi-Fi kit setting function on installing program (S-Net pro 2).



1 Click Search to find connected Wi-Fi kits.

2 Select one MAC address among searched Wi-Fi kits.
  - MAC address can be found on the label inside of Wi-Fi kit.



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3 Set tenant address. (Not support, 0 ~ F)

- Enter tenant address to S-NET pro 2, and it will be applied as below.

Tenant address	Group channel address of indoor unit controlled by W-Fi kit
Not Support	Control all indoor units connected to outdoor unit
0	Control indoor units assigned to group channel address 0
1	Control indoor units assigned to group channel address 1
2	Control indoor units assigned to group channel address 2
3	Control indoor units assigned to group channel address 3
4	Control indoor units assigned to group channel address 4
5	Control indoor units assigned to group channel address 5
6	Control indoor units assigned to group channel address 6
7	Control indoor units assigned to group channel address 7
8	Control indoor units assigned to group channel address 8
9	Control indoor units assigned to group channel address 9
A	Control indoor units assigned to group channel address A
B	Control indoor units assigned to group channel address B
C	Control indoor units assigned to group channel address C
D	Control indoor units assigned to group channel address D
E	Control indoor units assigned to group channel address E
F	Control indoor units assigned to group channel address F

- Ex.) If tenant address 2 is entered to Wi-Fi kit by S-NET pro 2, only indoor units assigned to 2 for RMC1 will be the target of controlling and monitoring.

4 Click Apply and the tenant address will be saved on Wi-Fi kit.

Note

- Refer to "Setting an indoor unit address and installation option" in installation guide of indoor unit to set indoor unit group address. (SEG9: 1, SEG 11: RMC1)
- If you want to reset the tenant address, please contact Samsung service center.
- To control all indoor units classified by tenant address with one smart phone, each Wi-Fi kit should be registered on the smartphone.
- When using multi tenant function by Wi-Fi kit, upper controllers other than OnOff controller (such as Touch centralized controller, DMS, etc.) can be installed at the same time.

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Note

- Data storage

Data	Location	
	Wi-Fi kit	Mobile phone
Group information	-	O
Indoor unit name	O	-
Schedule setting	O	-
Settings	△ (Set temp. unit/Set temp. scale)	△ (Heat temp. range)
Device installation information (Number of indoor unit, Address, etc)	O	-
Energy usage of outdoor unit (6 months)	O	-
Connection information	O	O

- Initialization
  - Initializing button: Reset to factory default state.
  - Mobile app deletion: Deletes every data relating Wi-Fi kit in mobile phone.

⚠ Caution

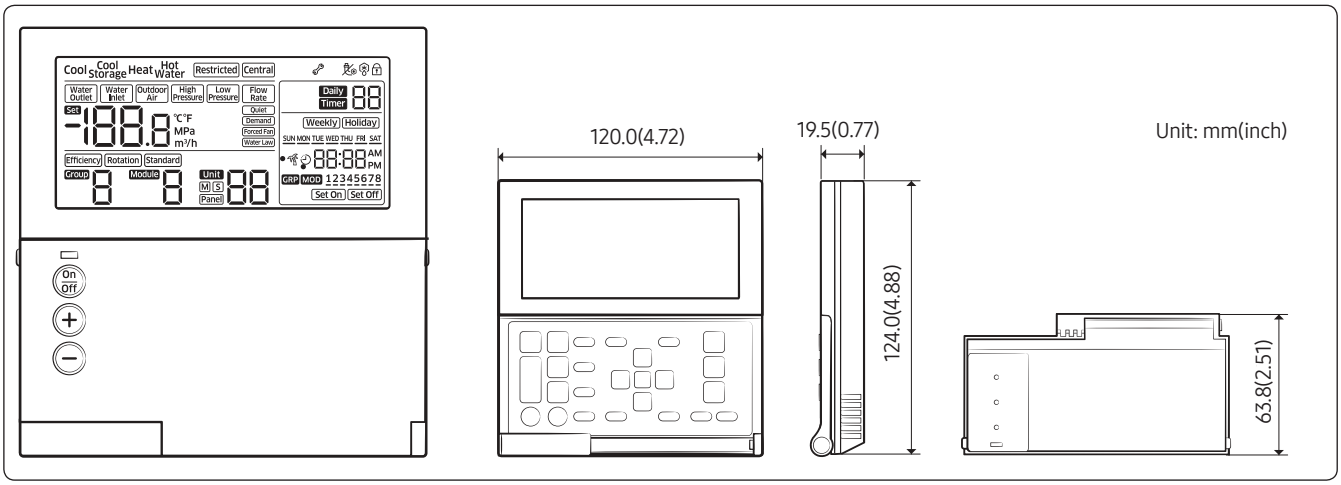
- After initialization, you must register Wi-Fi kit to Mobile app again.

()* is used in Turkey.

Module Controller

MCM-A00N

Features



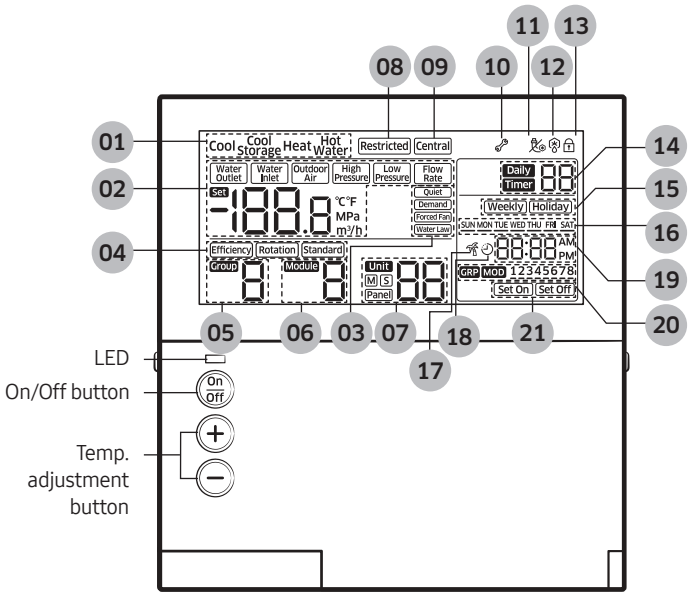
- DVM CHILLER On/Off control (Module/Group)
- Operation mode, water outlet temperature setting
- Optional operation setting
- Module/Group setting
- Weekly operation schedule setting

Product specification

Power Supply	DC 12V
Power Consumption	2W
Operating Temperature range	0°C~40°C (32°F~104°F)
Operating Humidity range	30%RH ~ 90%RH
Communication	2-wire PLC
Max. Communication length	200m (656ft)
Max. Number of connection	16 DVM CHILLER units

Description of parts

Display



No.	Display	Function
01	Cool Cool Storage Heat Hot Water	Displays the operation mode.
02	Water Outlet / Water Inlet / Outdoor Air / High Pressure / Low Pressure / Flow Rate	Displays the set or current water temperature (°C, °F). **NOTE** • Press button to display the set water temperature for 3 seconds. • The default is the current water temperature, and it can be changed into the set water temperature in the service setting mode. • The display will show Lo when the value can be displayed (-199 ~ 199) or show HI when it cannot be displayed. Displays the current temperature (°C, °F) of water inlet or outdoor air. Displays the current high or low pressure (MPa) of refrigerant. Displays the current water flow rate (m3/h).
03	Quiet / Demand / Forced Fan / Water Law	Displays the selected applied operation.
04	Efficiency Rotation Standard	Displays the operation pattern by each module and group.
05	Group 8	Displays the group from 1 to 4.
06	Module 8	Displays the module from 1 to 8.

Module Controller › MCM-A00N

No.	Display	Function
07	Unit M S Panel 88	Displays the unit from 0 to 15 (maximum 16). Displays Master or Slave. Displayed when setting the Panel control function from a certain unit. • Panel control function is to set the unit to control the operation itself, so the operation cannot be controlled from the module control if this function is set.
08	Restricted	Displayed when button input is restricted. Restricted display will appear when the buttons are restricted due to central control or when a combined operation cannot be performed. **NOTE** • The module control will be restricted in the following cases. Example1) Displayed when pressing Mode button in the central control. Example2) Displayed when setting the button lock function and then Mode button in the service mode.
09	Central	Displayed when setting the central control. **NOTE** • Central display will appear when the module control is controlled by the central control room of the building or by the upper level control such as a central control or a DMS etc. In this case, timer and all functions will be operated by the upper level control.
10		Displayed when an error occurs in a product or a module control. **NOTE** • Blinked when an error occurs in a product or a module control, followed by the error code. • It will disappear when all errors is solved.
11		Displayed when a pump operates automatically to keep the pipes from freezing.
12		Displayed when the defrost function operates. **NOTE** • Defrost function is to remove frost on the outdoor unit during operating the heat mode.
13		Displayed when selecting the button lock function. **NOTE** • To lock the buttons of the module control, press Settings button.
14	Daily Timer 88	Displays the number of daily or entire timers.
15	Weekly Holiday	Displays weekly timer or holiday setting.

Module Controller › MCM-A00N

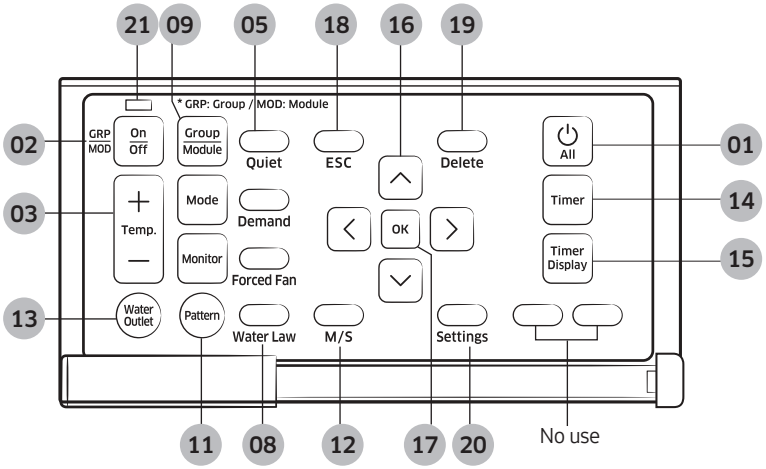
No.	Display	Function
16	SUN MON TUE WED THU FRI SAT	Displayed days of week while setting weekly or daily timer or displaying the set timer.
17		Displayed when the summer time function is set.
18		Displayed when setting the off timer for the entire DVM CHILLER in the additional function. Time for the off timer function can be set to maximum 23 hours. **NOTE** • The current time will be displayed if there is more than an hour until the set time. • The remaining time will be displayed and the off timer display will appear if there is less than an hour until the set time.
19	88:88 AM PM	Displays the current time or the set time.
20	GRP MOD 12345678	Displayed when selecting a group or a module while setting the weekly timer. (Group: 1 ~ 4, Module: 1 ~ 8)
21	Set On Set Off	Displayed Set on or Set off while setting or displaying timer.

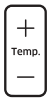
NOTE

- If you set the input method as external contract control in the option setting of DVM CHILLER, the module control cannot control the units.
  - When pressing GRP MOD On Off, Mode, or + Temp. − button on the module control, the displays will appear on the display but the DVM CHILLER will not operate.
- The module control cannot sense the indoor temperature.
- The module control does not control the midnight electricity's time or the cool storage tank.

Module Controller › MCM-A00N

Buttons



Classification		Indication	Function
Start/Stop	01 	All start/ stop button	Turns on or off all the DVM CHILLERs. You can turn on or off all the connected modules and groups. **NOTE** • When turning off all units and turn them back on, the units will operate in a previously selected mode.
	02 	On/Off button	Turns on or off a group or a module individually. When a module or a group is turned off, temperature or mode displays will not appear. **NOTE** • When turning off a module or a group and turn it back on, each module or group will operate in a previously selected mode.
Basic operation	03 	Temp. adjustment button	Adjusts the desired water temperature. **NOTE** • For celsius, the set water temperature can be adjusted by 1, 0.5, or 0.1 °C depending on the set value in the service mode. For fahrenheit, it can be depending on the set value in the service mode. For fahrenheit, it can be adjusted by 1 °F. • If you press and hold the button, it will be adjusted by 1 °C/1 °F.
	04 	Operation mode button	Selects the desired operation mode.
Applied operation	05 	Quiet button	Selects the quiet function.
	06 	Demand button	Selects the demand function.
	07 	Snow prevention button	Selects the snow prevention function.
	08 	Water law button	Selects the water law function.

Module Controller › MCM-A00N

Classification		Indication		Function
Option change function	09	Group Module	Group/Module button	Selects a group or module control.
	10	Monitor	Monitor button	Shows the result of monitoring water outlet, water inlet, outdoor air, high and low pressure of refrigerant, and water flow rate.
	11	Pattern	Pattern button	Sets the operation pattern when controlling the DVM CHILLER by groups or modules.
	12	M/S	M/S button	Sets Master or Slave units.
	13	Water Outlet	Water outlet button	When pressing the water outlet button while the display shows the pressure of refrigerant or the water inlet temperature, the water outlet temperature will be displayed.
Timer function	14	Timer	Timer button	Sets the weekly On/Off timer. **NOTE** • The timer can be set up to maximum 40 timers.
	15	Timer Display	Timer display button	Checks the timer already set. **NOTE** • You can check the timer by numbers or days of the week.
Common function	16	↑ ← → ↓	Up, down, left, right button	Moves from stage to stage or changes the set value.
	17	OK	OK button	Selects the stage or saves the setting.
	18	ESC	ESC button	Exits to normal mode without saving your changes while setting the timer or the additional function.
	19	Delete	Delete button	Deletes the timer. **NOTE** • Press button for 3 seconds to delete all the timers while the display shows the timers.
	20	Settings	Settings button	Enters the additional function setting screen.
LED	21	▭	LAMP	Displays the on/off status of the module or the group on the display. - On: green LED is turned on - Off: green LED is turned off - Error: red LED is blinking **NOTE** • When one of the modules or groups are operating, the green LED is turned on. • When a certain module or group needs to be inspected, the led LED is blinked.

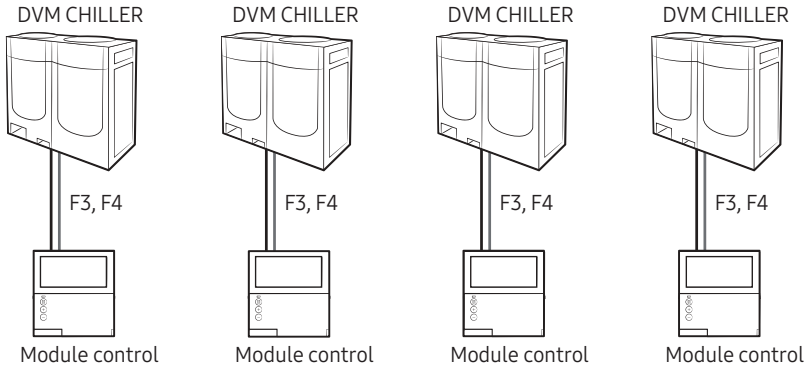
NOTE

- Mode, temperature, or etc. can be set when only the module control is turned on.
- GRP MOD, On Off, All, Group Module, Quiet, Demand, Water Law, Forced Fan, Settings, Timer, Timer Display, ESC + OK, ESC + Delete buttons can be used when the module control is turned off.

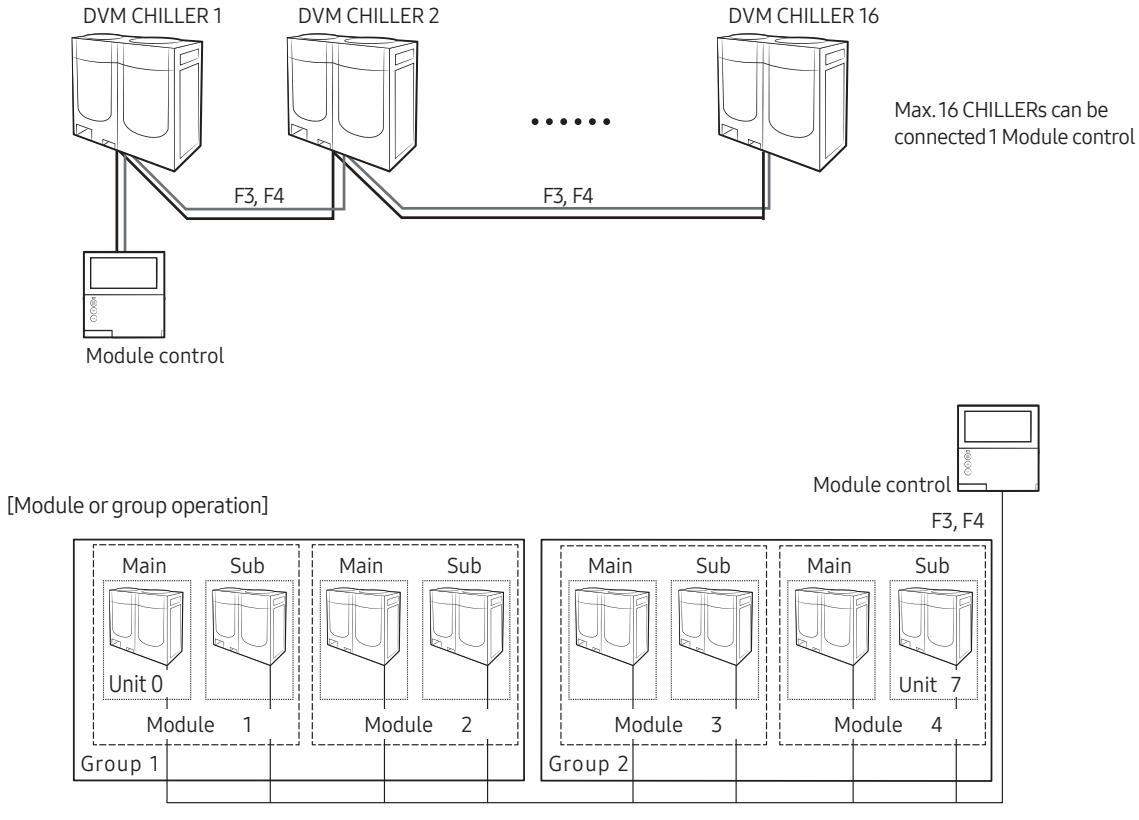
Module Controller › MCM-A00N

Connection diagram

1:1 connection



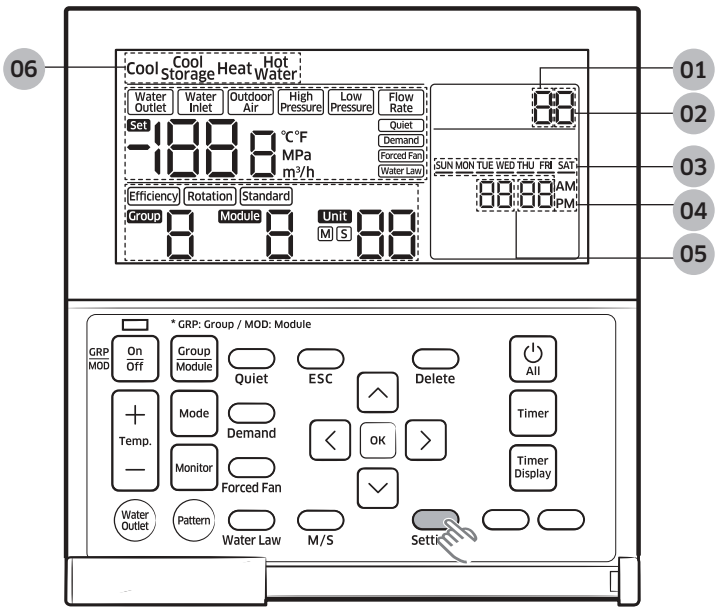
1:N connection



- Module/group operation is to combine multiple CHILLERs in modules or groups of a single water pipe system and to operate them depending on the working condition.
- A single module control can control a maximum of 16 DVM CHILLERs (0 ~ 15). DVM CHILLER can have a maximum of 8 modules (1 ~ 8) and 4 groups (1 ~4). A maximum of 8 units can be connected to a module, and a maximum of 8 modules can be connected to a group.

Optional function

Additional setting mode



- How to set “Additional setting mode”
  Press “Settings” to enter “Additional setting mode”

No.	Name	Description
01	Main menu	Displays main menu value of the service mode table.
02	Sub menu	Displays sub menu value of the service mode table.
03	Page	Displays Page value of the service mode table.
04	Data Segment	Displays Data value of the service mode table.
05	Synchronized segment for setting the current time	Displays the data value of the Page on the left side of the LCD at the same time.
06	The status of each unit	Displays the status of each unit when selecting the monitoring function by each unit in the user mode.

Main menu	Sub menu	Function		Initial value	Page	Range	Save
1	1	Off timer		0	1	00 ~ 12 hour(s) (by an hour)	Save
3	1	Lock all		0	1	0 - Unlock, 1 - Lock	Save
	2	Lock timer		0	1	0 - Unlock, 1 - Lock	Save
4	1	Set today’s date	(yy) year	-	1	00 ~ 99	Save
			(mm) month	-	2	01 ~ 12	Save
			(dd) day	-	3	01 ~ 31	Save
			week) day of week	-	4	Sun. ~ Sat. (0 ~ 6)	Save

Module Controller › MCM-A00N

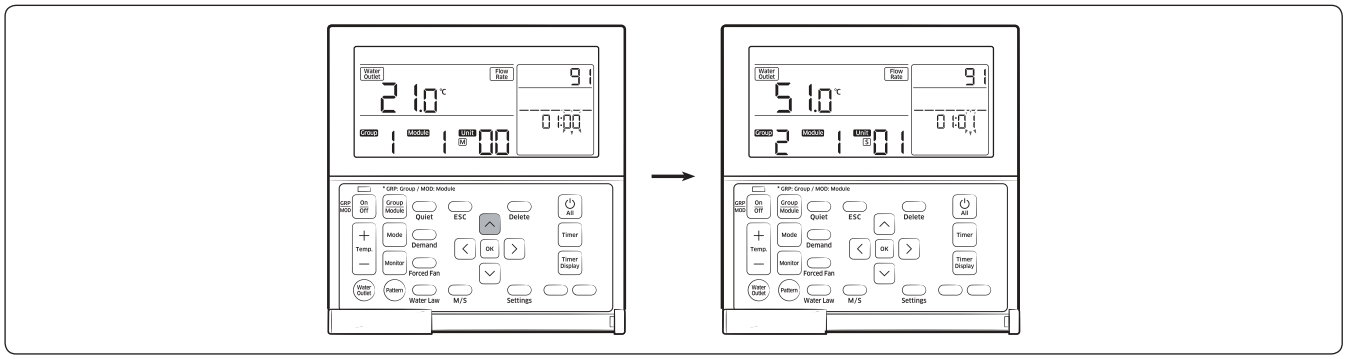
Main menu	Sub menu	Function		Initial value	Page	Range	Save
4	2	Set the current time	Hour: Minute	-	-	Setting range of hour • 12-hours: (AM/PM) 01 ~ 12 • 24-hours: (AM+PM) 00 ~ 23 • Setting range of minute: 0 ~ 59	Save
5	1	Use and set the summer time function	Use the summer time function or not	0	1	0 - No use, 1 - Use	Save
			Set the summer time type	0	2	0 - by a week, 1 - by a day	Save
	2	Start the summer time function (by a week)	Month	3	1	01 ~ 12 (Jan. ~ Dec.)	Save
			Sunday on the selected week	F	2	1 ~ 4 (week) or F - the last week	Save
	3	Start the summer time function (by a week)	Month	10	1	01 ~ 12 (Jan. ~ Dec.)	Save
			Sunday on the selected week	F	2	1 ~ 4 (week) or F - the last week	Save
	4	Start the summer time function (by a day)	(mm) month	3	1	01 ~ 12 (Jan. ~ Dec.)	Save
			(dd) day	22	2	01 ~ 31 (day)	Save
	5	End the summer time function (by a day)	(mm) month	9	1	01 ~ 12 (Jan. ~ Dec.)	Save
			(dd) day	22	2	01 ~ 31 (day)	Save
6	1	Set/check the time for backlight		5	1	00 ~ 30 (second) (Disuse when it is 00)	Save
	2	Use LED (green) or not		1	1	0 - No use, 1 - Use	Save
	3	Use LED (red) or not		1	1	0 - No use, 1 - Use	Save
9	1	User setting functions	Display the operating status by units [1)*]	The smallest unit number	1	00 ~ 15	-
	2		Display the number of temperature control devices/thermostats	The number of the temperature control devices/ thermostats	1	00 ~ 16	-
0	1	Reset to the default value of user mode (except the current time)		0	1	0 - No use, 1 - Reset	-

[1*)] You can check the status of units connected to the module control.

When pressing Monitor button after selecting the unit number, you can change the status of the selected unit. (Water Outlet → Water Inlet → Outdoor Air → High Pressure → Low Pressure → Flow Rate →).

Press ⌄, ⌃ button to change the unit number.

Module Controller › MCM-A00N



NOTE

- The summer time is to put the clock ahead an hour earlier than standard time in summer.

Service mode

How to set the service mode

1 Start the service mode.

ESC + OK Press for over 3 seconds

Caution

- To make it work correctly, you have to press the center of the buttons at the same time.

2 Select a main menu number.

▲/▼ ▸ Select a main menu number

3 Select a sub menu number.

▶ ▸ ▲/▼ ▸ Select a sub menu number

4 Select a Page number.

When changing a Page number, the display will show the set data value of the Page.

▶ ▸ ▲/▼ ▸ Select a Page number

5 Set Data value.

Refer to the table in “Service setting mode” for setting each data.

▶ ▸ ▲/▼ ▸ Adjust the data value

6 Save the data setting value.

OK

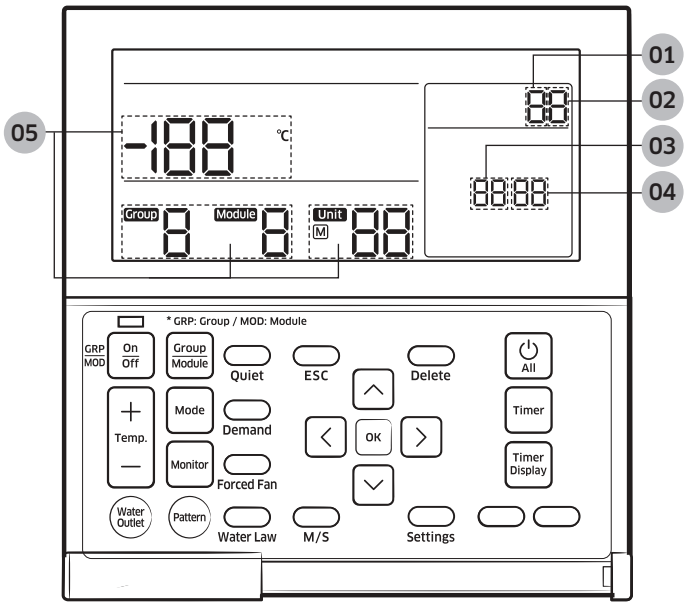
7 Complete the service mode.

ESC

NOTE

- If the current setting stage is in the main menu when pressing button, the service mode will be completed. If not, the stage will move to the main menu.

Module Controller › MCM-A00N



No.	Name	Description
01	Main menu	Displays main menu value of the service mode table.
02	Sub menu	Displays sub menu value of the service mode table.
03	Page	Displays Page value of the service mode table.
04	Data Segment	Displays Data value of the service mode table.
05	Synchronized segment for setting the current time	Displays the data value of the Page on the left side of the LCD at the same time.

Module Controller › MCM-A00N

Service setting mode

- After saving the setting, the DVM CHILLERs and the module control may be initialized if it is necessary.
- When entering the service mode during the tracking, you can enter the Data stage on the Main menu 4,5,6,9 (Save at DVM CHILLER) but you cannot change the setting.
  - The display will show Restricted if you press [OK] button.
  - The display shows only the collected data during the tracking.

Main menu	Sub menu	Function		Initial value	Page	Range	Save
1	1	Option setting/ checking	DVM CHILLER cooling and heating/only cooling	0	1	0 - Cooling and heating, 1 - Only cooling	Save at Module control
			Temperature unit display (°C)/(°F)	0	2	0 - Celsius (°C), 1 - Fahrenheit (°F)	Save at Module control
	2	Option setting/ checking 2	Temperature display set temperature/water temperature (Setting the module control's temperature display value)	1	1	0 - Set temperature 1 - current water outlet temperature (Default value)	Save at Module control
	6	Number of connected units	Number of DVM CHILLERs	0	1	00 ~ 16	-
	7	Setting the unit of the desired temperature (Available only when the temperature display is °C.)		0	1	0 - 1 1 - 0.5 2 - 0.1	Save at Module control
	8	Setting type of time		0	1	0 - 12-hours, 1 - 24-hours	Save at Module control
	9	Check for timer IC error		0	1	0 - Normal, 1 - Error	-
	0	Initializing service mode setting value		0	1	0 - Disuse, 1 - Reset	-
2	1	Checking micom codes of the module control		-	1 ~ 3	Micom code	-
	2	Checking the version information of the module control program		-	1 ~ 3	Modified date	-
4	1	Setting DVM CHILLE number/option 1)*	Setting a targeted DVM CHILLER	View Master	1	A registered unit number	-
	4		Setting/checking basic options	Basic options of the target	1 ~ 20	Option code	Save at DVM CHILLER
	5		Setting/Checking installation options	Installation options of the target	1 ~ 20	Option code	Save at DVM CHILLER
	6		Setting/Checking installation options 2	Installation options 2 of the target	1 ~ 20	Option code	Save at DVM CHILLER

Main menu	Sub menu	Function		Initial value	Page	Range	Save
5	1	Setting DVM CHILLER detailed setting	Demand level [2)*]	-	Module number	0 - Default value (100 %) 1 - 95 % 2 - 90 % 3 - 85 % 4 - 80 % 5 - 75 % 6 - 70 % 7 - 65 % 8 - 60 % 9 - 55 % 10 - 50 % 11 - Not applied (unrestricted)	Save at DVM CHILLER
	2		Quiet operation level [3)*]	-	Module number	0 - Default value (100 %) 1 - Level1 2 - Level2 3 - Level3	Save at DVM CHILLER
	3		Standard for Water law [4)*]	-	Main unit number [5)*]	Standard for Water Law temperature 0: Based on outdoor temperature/ 1: Based on room temperature	Save at DVM CHILLER
	4		AirCool1 (for Water law)	-	Main unit number [5)*]	Outdoor temperature standard 1 [0 ~ 20°C(32 ~ 68°F)] in cooling mode	Save at DVM CHILLER
	5		AirCool2 (for Water law)	-	Main unit number [5)*]	Outdoor temperature standard 2 [30 ~ 40 °C(86 ~ 104°F)] in cooling mode	Save at DVM CHILLER
	6		RoomCool1 (for Water law)	-	Main unit number [5)*]	Room temperature standard 1 [15 ~ 24 °C(59 ~ 75°F)] in cooling mode	Save at DVM CHILLER
	7		RoomCool2 (for Water law)	-	Main unit number [5)*]	Room temperature standard 2 [25 ~ 35 °C(77 ~ 95°F)] in cooling mode	Save at DVM CHILLER
	8		Tcool1 (for Water law)	-	Main unit number [5)*]	Cooling set temperature standard 1 [-10 ~ 25 °C(14 ~ 77°F)] in cooling mode	Save at DVM CHILLER
	9		Tcool2 (for Water law)	-	Main number [5)*]	Cooling set temperature standard 2 [-10 ~ 25 °C(14 ~ 77°F)] in cooling mode	Save at DVM CHILLER

Module Controller › MCM-A00N

Main menu	Sub menu	Function		Initial value	Page	Range	Save
6	1	DVM CHILLER detailed setting 2	AirHeat1 (for Water law)	-	Main unit number [5]*	Outdoor temperature standard 1 [-20 ~ 5°C(-4 ~ 41°F)] in heating mode	Save at DVM CHILLER
	2		AirHeat2 (for Water law)	-	Main unit number [5]*	Outdoor temperature standard 2 [10 ~ 20°C(50 ~ 68°F)] in heating mode	Save at DVM CHILLER
	3		RoomHeat1 (for Water law)	-	Main unit number [5]*	Room temperature standard 1 [15 ~ 24°C(59 ~ 75°F)] in heating mode	Save at DVM CHILLER
	4		RoomHeat2 (for Water law)	-	Main unit number [5]*	Room temperature standard 2 [25 ~ 35°C(77 ~ 95°F)] in heating mode	Save at DVM CHILLER
	5		Theat1 (for Water law)	-	Main unit number [5]*	Heating set temperature standard 1 [35 ~ 55°C(95 ~ 131°F)] in heating mode	Save at DVM CHILLER
	6		Theat2 (for Water law)	-	Main unit number [5]*	Heating set temperature standard 2 [35 ~ 55°C(95 ~ 131°F)] in heating mode	Save at DVM CHILLER
	9		Operation pattern for modules (When operating standard pattern by a group) [6]*	-	Module number	0 - Standard 1 - Rotation 2 - Efficiency	Save at DVM CHILLER
9	1	Set groups/ modules [7]*	Assign modules/ groups to units	-	Unit number	Group(1 ~ 4)/ module (1 ~ 8)/ not set '-'	Save at DVM CHILLER
	2	Set a main unit [7]*	Set a main unit for modules	-/-/unit	Module number	Unit number of the selected module	Save at DVM CHILLER
	3		Set a main unit for groups	-	Group number	Unit number of the selected group	Save at DVM CHILLER
	4	Device option	Use Cool storage mode	-	1	0 - Disable, 1 - Enable	Save at DVM CHILLER
	5		Use Hot water mode	-	1	0 - Disable, 1 - Enable	Save at DVM CHILLER
	6	Set a backup module [8]*	Set a backup module	-	Group number	0 – Disable, 1 ~ 8 – The unit number of the selected module	Save at DVM CHILLER

Main menu	Sub menu	Function		Initial value	Page	Range	Save
0	1	Reset	Initialize factory setting of the module control (Initialize user/service mode setting value)	0	1	0 - No use, 1 - Reset	-
	2		Initialize power master [9)*]	0	1	0 - No use, 1 - Reset	-
	3		Initialize DVM CHILLER and module control's addressing	0	1	0 - No use, 1 - Reset	-

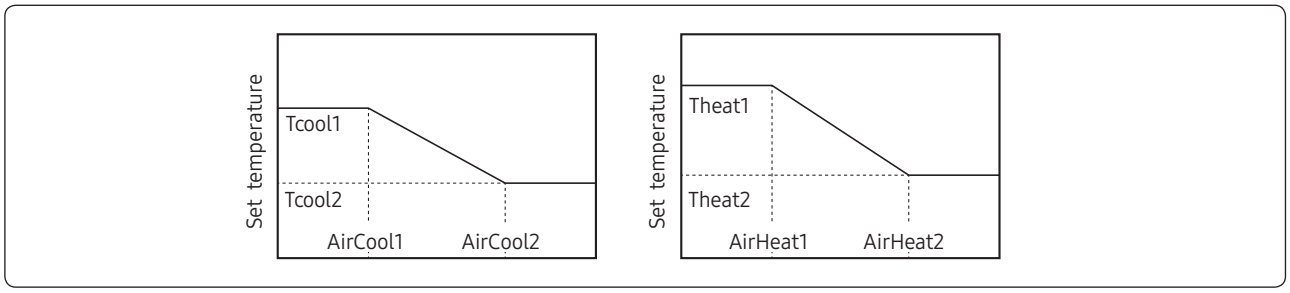
[1)*] In 4-1 menu, the units connected to the module control will be displayed. Select the unit that you want to set and then move to 4-4, 5, 6 menu.

[2)*] Set a current limit rate. If you set the value less than 100 %, performance may decrease.

[3)*] Set a level of the Quiet mode. Level3 is the lowest, performance and efficiency may decrease if the Quiet mode operates.

[4)*] Select a standard for Water law when operating cooling or heating. Water law is to change the water outlet temperature, considering demand load changes according to outdoor or indoor temperature.

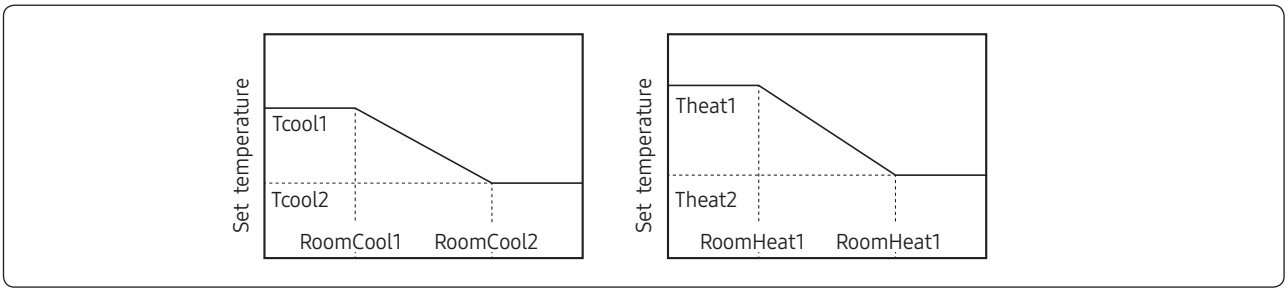
According to outdoor temperature



NOTE

- If the unit is not a low temperature water model, the set temperature decided by the Water law control will not decease below 5°C(41°F).

According to indoor temperatrue (when using an external temperature sensor)



NOTE

- If the unit is not a low temperature water model, the set temperature decided by the Water law control will not decease below 5°C(41°F).

5)* A main unit of a group or a module will be displayed.
When setting a group, the value for a main unit of the group must be set.

6)* When setting “Standard pattern” for a group, you must set an operation pattern for each module in the group.

7)* Only when completing setting a group or a module and their main units, the module control will operate properly.
When completing the a group or a module setting and then exiting from service mode, the module control will be initialized and the tracking will be performed again.

8)* If a backup unit is selected, the unit will operate depending on the standards for DVM CHILLER.
A backup module does not operate in the normal operation condition. If performance by operating the normal modules is not enough, the backup module will operate.

9)* Power Master Reset is a setting needed to supply optimized power to the module control when multiple DVM CHILLERs are connected to the module control.

Chapter
03

Integrated management System

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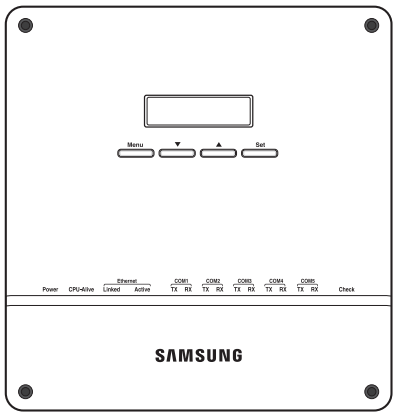
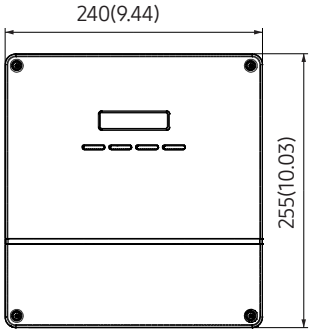
DMS2.5

MIM-D01AN (MIM-D01ARN)*

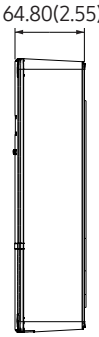
Features



Unit: mm(inch)



Front view



Side view

- Built-in web server for PC-independent management and remote access control
- Multiple upper-layer control access (S-NET 3, Web-client)
- Weekly/Daily schedule control
- Power distribution function
- Current time management even during power failure (for 24 hours)
- Emergency stop function with simple contact interface
- Individual/Group control of up to 256 indoor units and ERV, AHU, DVM CHILLER, FCU kit
- User editable control logic
- Accessible level management
- Dynamic security management
- Operation & error history management
- Data storage in non-volatile memory & SD memory

⚠ Caution

- You cannot upgrade DMS 2.0 to DMS2.5 by software upgrade.

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DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Product specification

Power	Source	DC Adaptor		
	Input	100~240VAC (±10%), 50/60Hz		
	Output	12V 3A		
Operating temperature range		-10°C ~ 50°C (14°F~122°F)		
Operating humidity range		0%RH ~ 90%RH		
Communication method		• Lower level: RS485 x 5 • Upper level: Ethernet 100 Base-T x 1		
External connection port	Digital Output	8		
	Digital Input	10		
Maximum length of connection	RS485	1000 m (3280ft)		
	Digital Output	100 m (328ft)		
	Digital Input	100 m (328ft)		
	Ethernet	100 m (328ft): When there is no repeater		
Max. connectable number of device	Control layer	Device	Numbers per each channel	Total number for 5 channels
		Indoor units (including ERV, MCU, FCU KIT)	128	256
		Outdoor units (including MIM-N01, MIM-N10, MIM-F10N,DVM CHILLER unit)	16	80
		OnOff controller	Total 15 (Including Wi-Fi kit Max.4)	Total 75 (Including Wi-Fi kit Max.20)
		Touch centralized controller		
		Wi-Fi kit (MIM-H03N)		
		PIM interface module (MIM-B16N)	8	8

Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	PIM interface module (MIM-B16N)
	Wi-Fi kit (MIM-H03N)

- Conventional communication outdoor unit requires interface module(MIM-N01).
- MIM-B13D, MIM-B13E, MIM-B04A Interface modules cannot be connected.
- To connect ERV, MIM-N10 is required.
- To connect FCU KIT, MIM-F10N is required.
- Conventional PIM must connect to CH4(COM5) of DMS 2.5.

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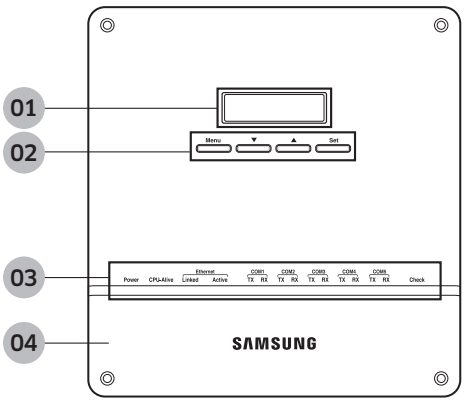
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

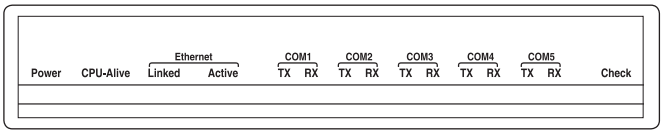
Description of parts

Front



No.	Name	Function
01	LCD display	Shows current time and IP address. Various messages will be displayed depending on button input.
02	LCD operation button	There are 4 buttons (Menu, ▼(Down), ▲(Up), Set) and you can access to menu and move, check the menu.
03	LED Indicator	Check 15 LED status such as Power, CPU-Alive, Ethernet-Linked/Active, COM1~5-TX/RX and Check
04	DMS2.5 Bottom cover	Unfasten 2 screws on the bottom and separate the bottom cover from DMS2.5. Then check cable connection part.

LED indicator



Item	Name	Status
Power	Power indicator	Turns blue when the power is supplied
CPU Alive	CPU operation indicator	Blinks in orange with 1 second intervals during normal operation
Ethernet - Linked	Internet connection indicator	Turns green during normal connection
Ethernet - Active	Internet data transmission/ reception indicator	Blinks in orange during normal transmission/ reception
COM1~5 - TX	OnOff controller/ Outdoor unit data transmission indicator	Blinks in green during normal transmission
COM1~5 - RX	OnOff controller/ Outdoor unit data reception indicator	Blinks in green during normal reception
Check	Indoor/outdoor unit/error check indicator	Turns green when there is an error on more than one indoor/outdoor unit or in communication

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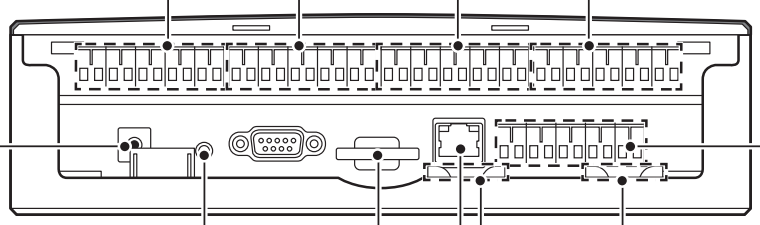
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Bottom



DI Terminal2
Connect Digital Input:
Channel 6~Channel10

DI Terminal1
Connect Digital Input:
Channel 1~Channel 5

Power Terminal
Connect DMS2.5 adapter

Reset Button
Reset DMS2.5

SD Card Socket
Socket for sub memory (SD or MMC)
(Sub memory is for DMS2.5 program update and set information saving)
- Purchase SD card separately.

DO Terminal1
Connect Digital Output:
Channel 1~Channel 5

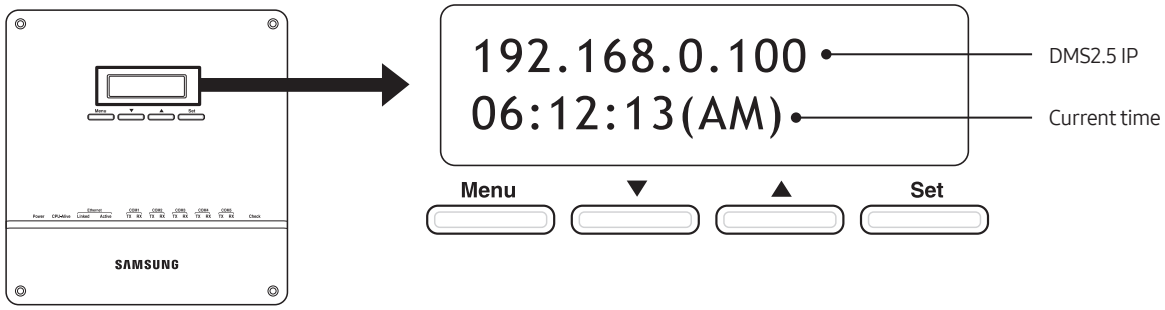
DO Terminal 2
Connect Digital Output:
Channel 6~Channel 8

RS485 Communication terminal
Connect for RS485 communication with devices such as OnOff controller/ Outdoor units/
PIM Channel 0 ~ Channel 4

Cable tie groove
Arrange cables connected to DMS2.5

LAN Terminal
Connect LAN cable

Menu and display



Button	Detail description
LCD display	• General display: Displays IP address of the DMS2.5 and current time • In Menu: Displays menu information and set value
Menu	• Access menu and select main menu • Cancel menu setting
▼	• Move between menu • Change the menu settings
▲	• Move between menu • Change the menu settings
Set	• Access sub menu • Save the change of menu settings

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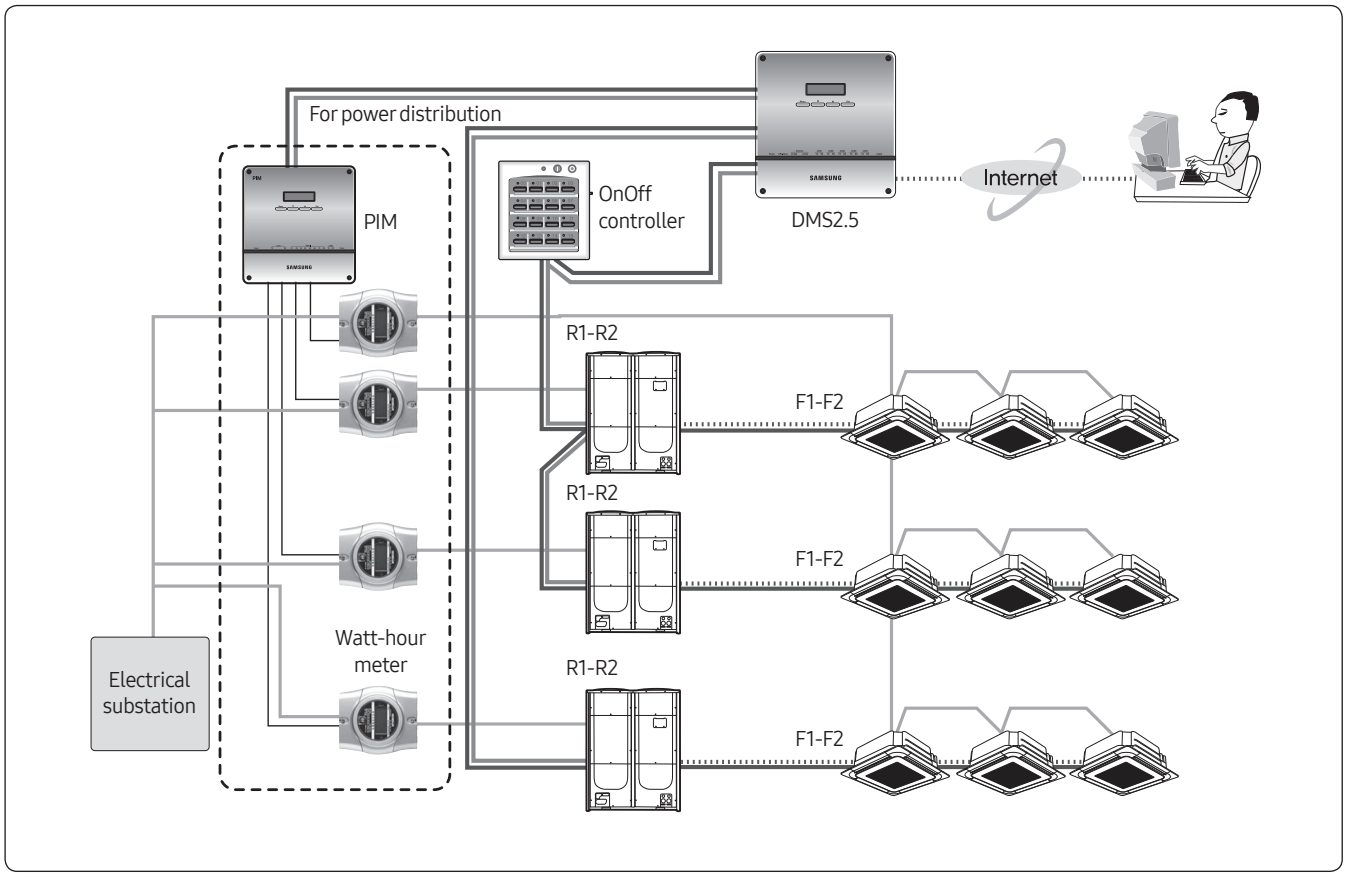
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Connection diagram

MIM-B16N(PIM) can be connected with outdoor units or controllers to same channel of DMS2.5.



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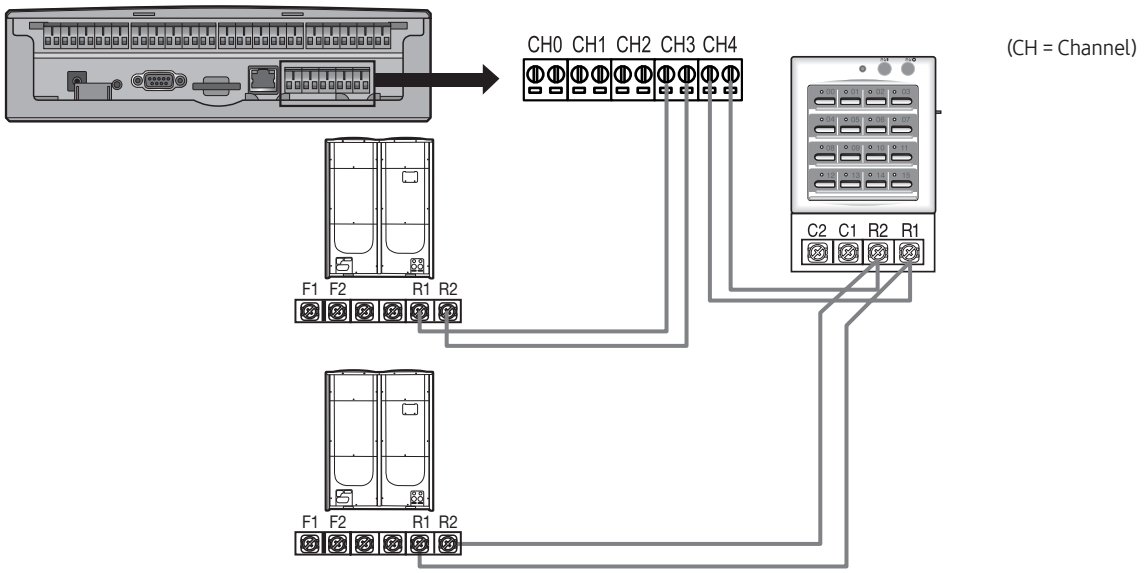
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Wiring



Connecting outdoor unit directly

- Maximum 16 outdoor units can be connected to each channel
- Total 80 outdoor units can be connected

Connecting OnOff controller/Touch centralized controller

- Maximum 15 OnOff controller/Touch centralized controller can be connected to each channel

Note

- DMS2.5 can connect outdoor unit and OnOff controller/Touch centralized controller at the same time.
- Outdoor unit and OnOff controller/Touch centralized controller can be connected to 1 communication channel at the same time.

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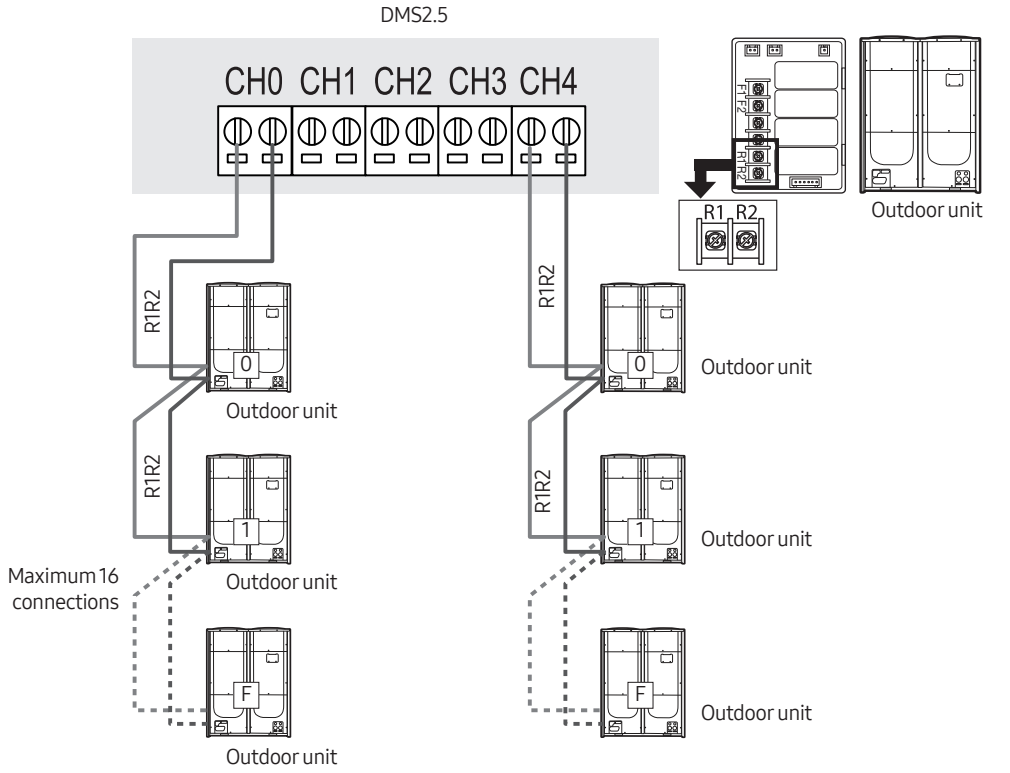
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Connecting with outdoor unit



- Outdoor unit's address is defined automatically. The address can be changed manually also.

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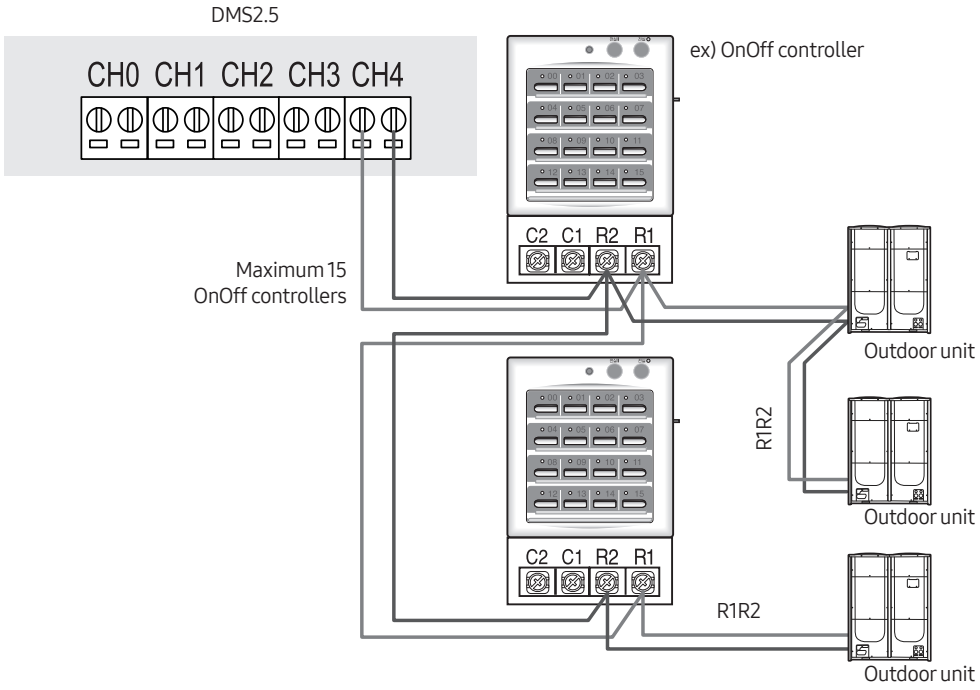
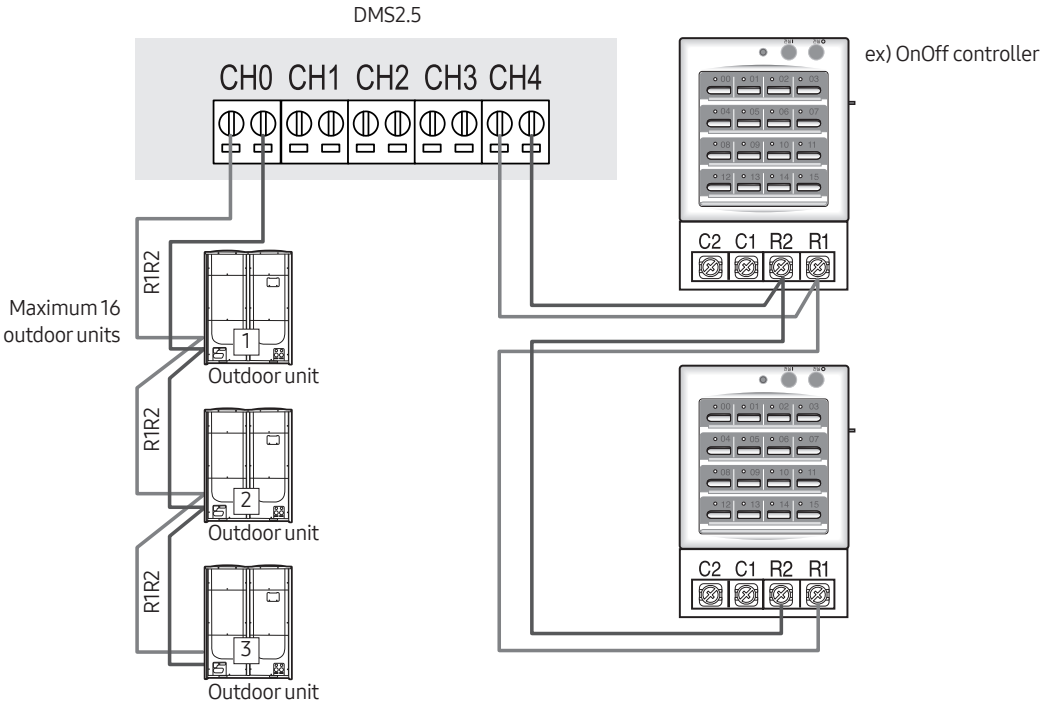
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Connecting with OnOff controller/Touch centralized controller



Connecting with outdoor unit and OnOff controller/Touch centralized controller



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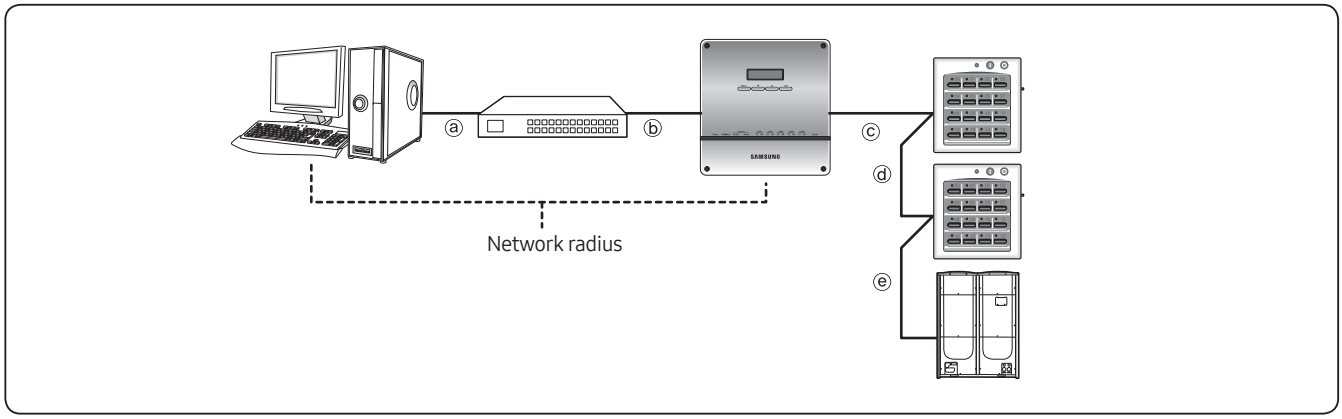
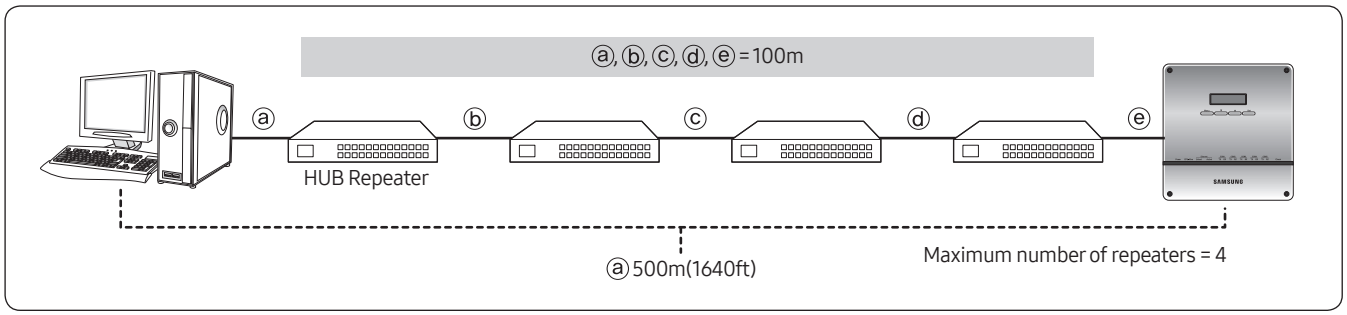
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Wiring distance



- Distance between DMS2.5 and OnOff controller/Touch centralized controller/outdoor unit
  - Distance from the DMS2.5 to the furthest device cannot exceed 1000m(3280ft).
  - ⓒ + ⓓ + ⓔ ≤ 1000m
- Distance between DMS2.5 and upper level controller
  - Since DMS2.5 supports 100 Base-T Ethernet, first repeater or upper level controller from the DMS2.5 cannot be further than 100m(328ft) (IEEE 802.3). Therefore, maximum network radius is restricted to 500m(1640ft).



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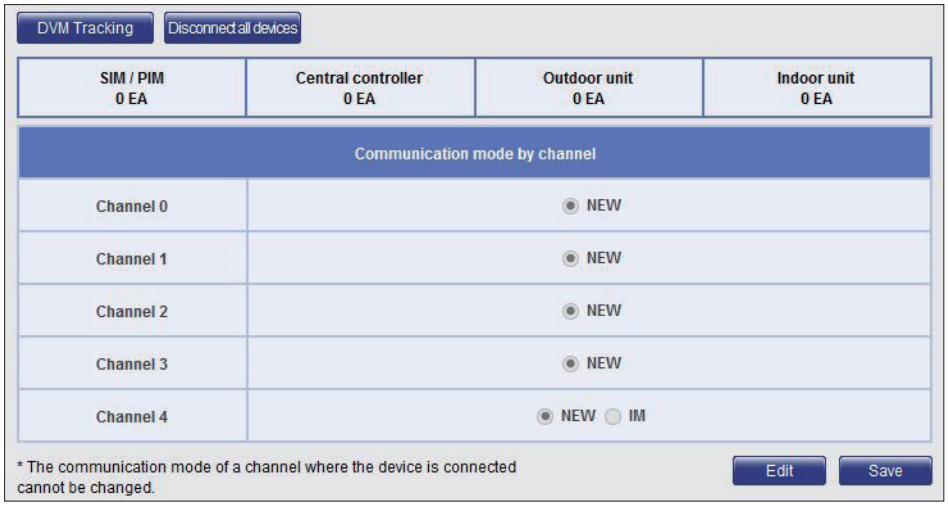
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Function

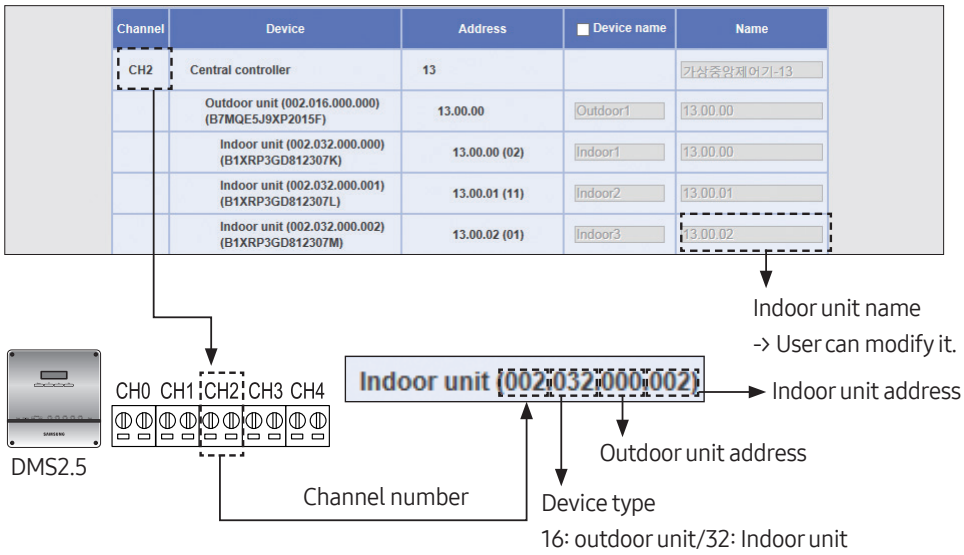
Tracking

Tracking is an operation that finds devices which are connected to DMS2.5.
Through tracking operation, devices which are connected to DMS2.5 can recognize if they are connecting to DMS2.5.
To supervise and control system air conditioner using DMS2.5, tracking should be done first.



- When outdoor unit or controller is connected to channel, set as “NEW”
- IM mode cannot be set, but it can be used for function change or new function with an updated version.

You can check the number of installed devices, address of the devices or rename the indoor unit after tracking is completed.

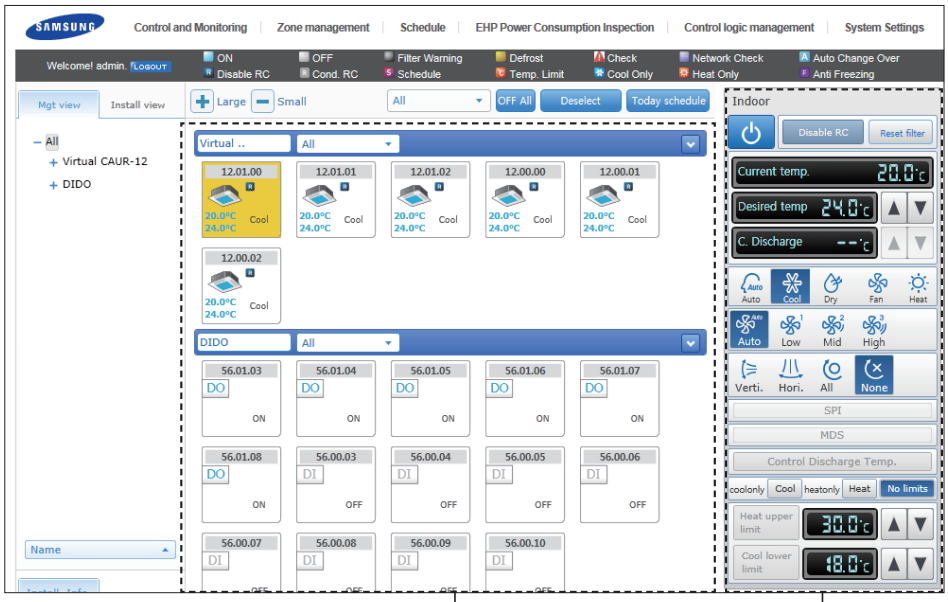


()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Control & monitoring

DMS2.5 can control and monitor Max 256 devices. (Indoor unit, ERV, AHU, DVM CHILLER, FCU KIT)
And it also controls and monitors external contact point (8 Digital input, 6 Digital output.)



Multiple language support

DMS2.5 (MIM-D01AN) supports 15 languages

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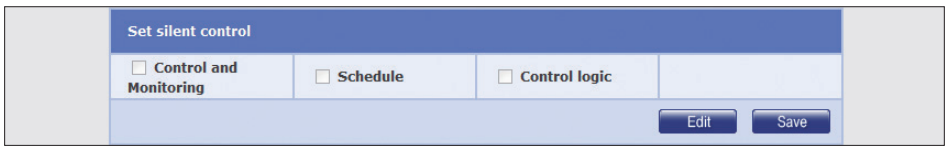
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Set silent contol

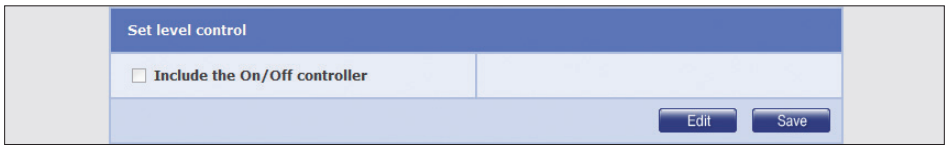
DMS2.5(MIM-D01AN) can contol indoor unit without operation beeping sound using below setting option.



- Control and Monitoring: Select this if you want to control silently in 'Control and Monitoring' screen of DMS2.5.
- Schedule: Select this if you want to perform 'Schedule' silently.
- Control logic: Select this if you want to perform 'Control logic' silently.

OnOff controller restriction

DMS2.5 (MIM-D01AN) can restrict OnOff controller, Touch centralized controller usage.

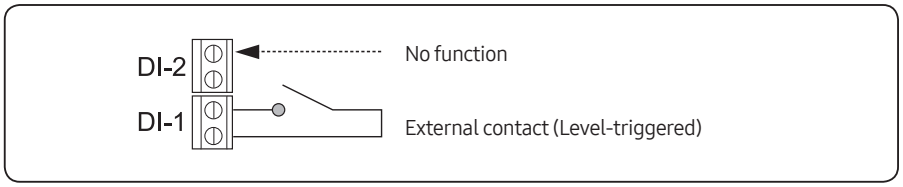


- Select this if you want to restrict controlling from OnOff controller and Touch centralized controller when you disable RC from the DMS2.5.

Contact point control

You can select emergency operation pattern

Pattern 2



Short external contact: Emergency stop

- Turns off all the indoor units when there is an ON signal input
- All the remote control use is disabled
- Control from S-NET3 is unavailable
- Disable schedule control

Open external contact: Resume operation

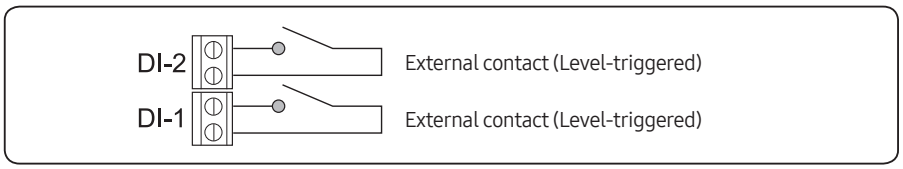
- After Emergency stop, the indoor units stay in the current OFF states.
- All the remote control use is restored to the previous state.
- Schedule control is enabled again.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Pattern 3

Schedule control is not interrupted in Pattern 3.



External contact input to DI-1

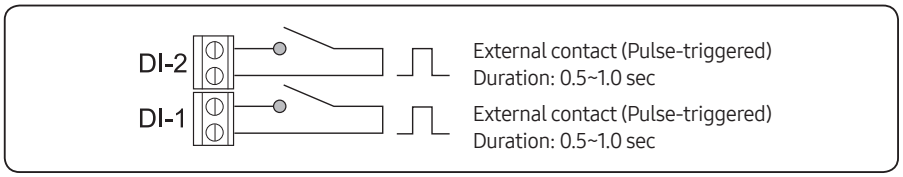
- Short contact: Starts all indoor unit operation.
- Open contact: Stops all indoor unit operation.

External contact input to DI-2

- Short contact: Disables the use of all wired/ wireless remote controllers.
- Open contact: Enables the use of all wired/ wireless remote controllers.

Pattern 4

Schedule control is not interrupted in Pattern 4.



External contact pulse input to DI-1

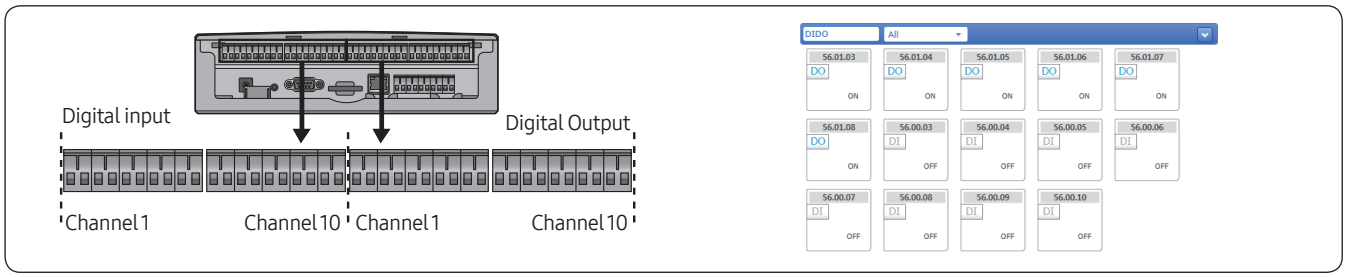
- Short pulse-triggered: Starts all indoor unit operation.

External contact pulse input to DI-2

- Short pulse-triggered: Stops all indoor unit operation.

General external contact point control

DMS2.5 has Digital input/output ports to check the external device status or turn them On/Off through contact point.



DI: Voltage free contact signal input (Open/Short)

- Channel 1, Channel 2 is occupied with [Emergency stop] function.
- Channel 3~Channel 10: DMS2.5 can monitor the contact signal input state of each channel

DO: Contact signal output (DC 12V)

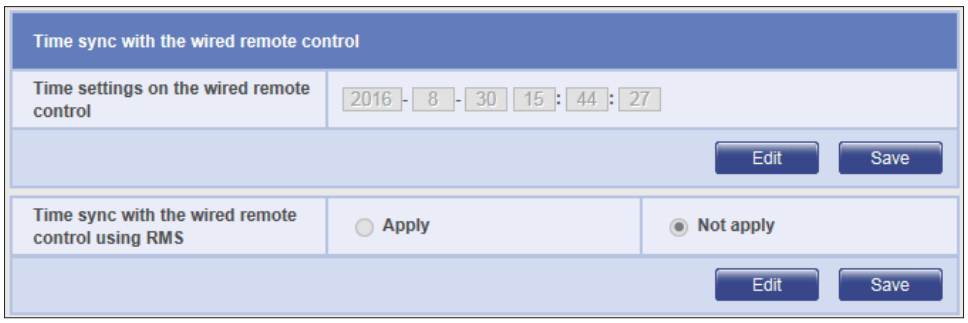
- Channel 1, Channel 2, Channel 9 and Channel 10 is occupied with other functions.
- Channel 3~Channel 8: DMS2.5 can control contact signal output.

Note

- DI 1, 2/DO 1, 2, 9, 10 will be excluded from control and monitoring since it is being used by internal function of DMS2.5.

()* is used in Turkey.

Time sync with the wired remote control



1 Click [System Settings] → [System environment setting] when DMS2.5 web page menu screen appears.

2 Click [Edit] on [Time settings on the wired remote control] in [Time sync with the wired remote control] menu.

- Set the time to use.

3 Click [Edit] on [Time sync with the wired remote control using RMS] in [Time sync with the wired remote control] menu and click [Apply].

- Be sure to click [Apply] to start auto sync through RMS service.

4 Click [Save].

Daylight Saving Time Setting

1 Click [System Settings] → [System environment setting] when DMS2.5 web page menu screen appears.

2 Click [Edit] on [Daylight Saving Time Setting].

3 If the DMS2.5 can be connected to the Internet, select 'Apply (Internet)'. Not only the Daylight Saving Time function runs automatically, but also the time synchronization of DMS2.5 runs through communication with an external time server.

4 If the DMS2.5 is not connected to the Internet, set the Start date and End date after selecting Apply (Manual).

5 Click [Save].

Note

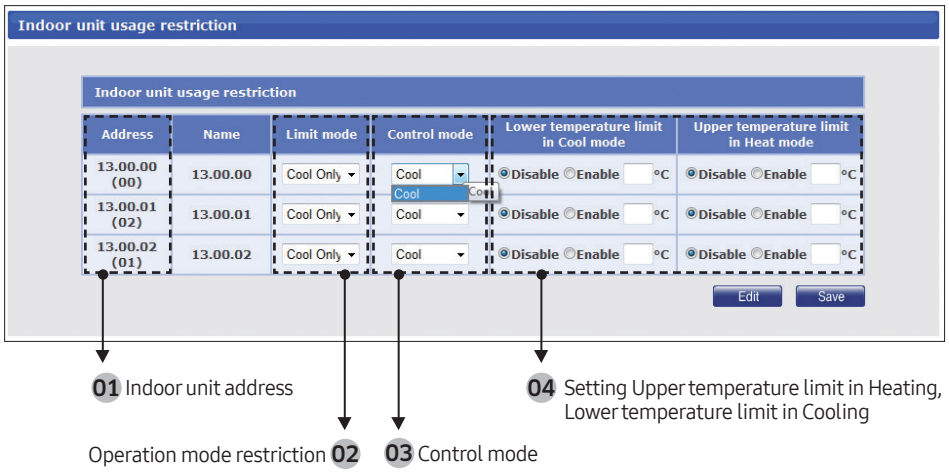
- Time setting is available only in some wired remote controllers that can support time setting function through the DMS.
- You can use the auto time sync function of the wired remote controller through the RMS only while using the RMS service. The time for the wired remote controller is automatically set based on the RMS time once a day.

()* is used in Turkey.

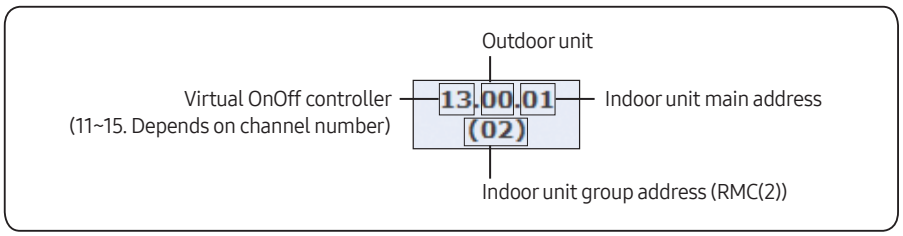
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Indoor unit usage restriction

- Operation limit: To prevent the wrong operation mode setting, it can limit the operation mode of indoor unit.
- Temperature limit: It can set the lower temperature limit in Cool mode and the upper temperature limit in Heat mode.



1 Check the indoor unit address.



2 Select the Limit mode

- Indoor units within same outdoor unit must be set in same limit mode.
- All indoor units of one outdoor unit set same operation mode restriction automatically.

3 Control mode will be set automatically depends on the seleceted restricted mode

- Ex) When the restricted mode is set to [Cool-only] and then [Control mode] is set to [Cool] automatically
  If user set [Heating mode] using remote controller → Indoor unit ignores the command.

4 Set the Upper temperature limit in Heating and Lower temperature limit in Cooling.

- Upper temperature limit in Heating and Lower temperature limit in Cooling can be set differently for each indoor unit. [Cooling:18°C~30 °C (64°F~86°F), Heating:16 °C~30 °C (61°F~86°F)]

()* is used in Turkey.

Logic control

What is logic control?

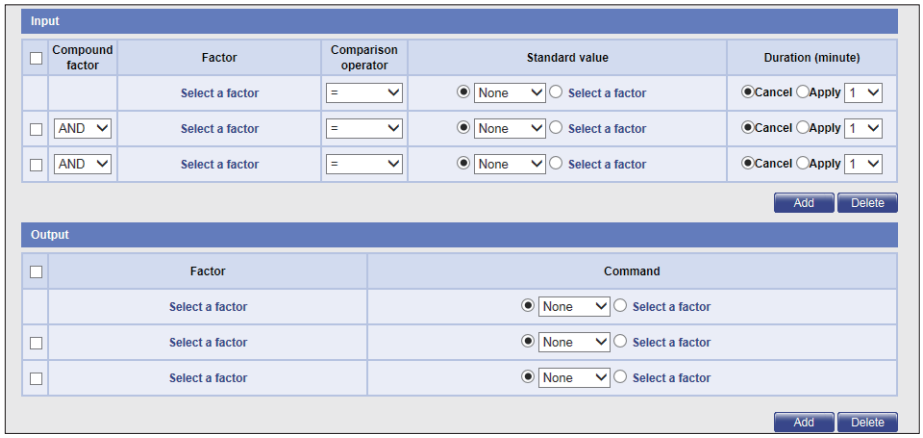
User can control the air conditioner, ERV, AHU and digital output depending on the conditions, such as room temperature and outdoor temperature, set by the user. Input condition can be used with parameter and it will be calculated with arithmetic equation. Schedule function executes operation by time but logic control executes operation according to the conditions that set by the user.

Examples of utilizing the logic control

Case 1) Government regulates the lowest room temperature to be 26°C (78°F) in public places. When the room temperature is lower than 26°C (78°F), administrator must turn off all the air conditioners in the area. Is there any way for the air conditioner to turn off automatically depending on the certain room temperature?

Case2) During spring and fall, it is cold in the morning and warm in the afternoon. Therefore, I'm using the air conditioner in heating mode in the morning and depending on the outdoor temperature?

Case 3) I'm using air conditioner with ERV. In the days with the outdoor temperature relatively lower than the indoor, I want to use ERV instead of the air conditioner to ventilate and minimize the air conditioner use. Is there any way to set the air conditioner or ERV to operate appropriately and automatically depending on the temperature?



Input		Output
1 Select the factor to input condition • Device, factor 2 Edit the condition • Compound factor/Comparison operator • Standard value/Duration	▶	1 Select output factor • Device, factor 2 Edit output • Create control

Edit factor		
Single factor	Power Current temp. Desired temp. Outdoor temp. Mode Fan speed Air flow Enable/Disable RC Trouble, Limit mode	
Arithmetic factor	+ -	Current temp. Desired temp. Outdoor temp.
Function factor	Average	Current temp. Desired temp. Outdoor temp.

Compound factor
AND
OR

Comparison operator
=
=>
=<
>
<
≠

Command
Power
Desired temp.
Mode
Fan speed
Air swing
Enable/Disable RC
Limit mode

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DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Type	Item	Value	Remarks
Outdoor unit	Current electric control option	50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 100%	Control impossible
	Current heating capacity calibration	25kg/cm², 26kg/cm², 27kg/cm², 28kg/cm², 29kg/cm², 30kg/cm², 31kg/cm², 32kg/cm², 33kg/cm²	Control impossible
	Current cooling capacity calibration	5~7°C(41~45°F), 7~9°C(45~48°F), 9~11°C(48~52°F), 10~12°C(50~54°F), 11~13°C(52~55°F), 12~14°C(54~57°F), 13~15°C(55~59°F)	Control impossible
	Electric control option	50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 100%	
	Heating capacity calibration	25kg/cm², 26kg/cm², 27kg/cm², 28kg/cm², 29kg/cm², 30kg/cm², 31kg/cm², 32kg/cm², 33kg/cm²	
	Cooling capacity calibration	5~7°C(41~45°F), 7~9°C(45~48°F), 9~11°C(48~52°F), 10~12°C(50~54°F), 11~13°C(52~55°F), 12~14°C(54~57°F), 13~15°C(55~59°F)	
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
Indoor unit	Power	On, Off	-
	Current temp.	Number	Control impossible
	Desired temp.	Number	-
	Outdoor temp.	Number	Control impossible
	Operation mode	Auto, Cool, Dry, Fan, Heat	-
	Fan speed	Auto, Low, Mid, High	Turbo is available when the device supports the Turbo fan speed.
	Air direction	Vertical, Horizontal, All, None	-

Type	Item	Value	Remarks
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
ERV	Power	On, Off	-
	Operation mode	Auto, HeatEx, Bypass, Sleep	-
	Fan speed	Low, High, Turbo	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
ERV PLUS	Power	On, Off	-
	Outdoor temp.	Number	Control impossible
	ERV mode	Auto, HeatEX, Bypass, Sleep	-
	ERV fan speed	Low, High, Turbo	-
	Operation mode	Auto, Cool, Heat, Off	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
Fresh duct	Power	On, Off	-
	Operation mode	Auto, Cool, Fan, Heat	-
	OA intake temp.	Number	Control impossible
	Outdoor temperature	Number	Control impossible
	Cool discharge temp.	Number	-
	Heat discharge temp	Number	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Power	On, Off	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

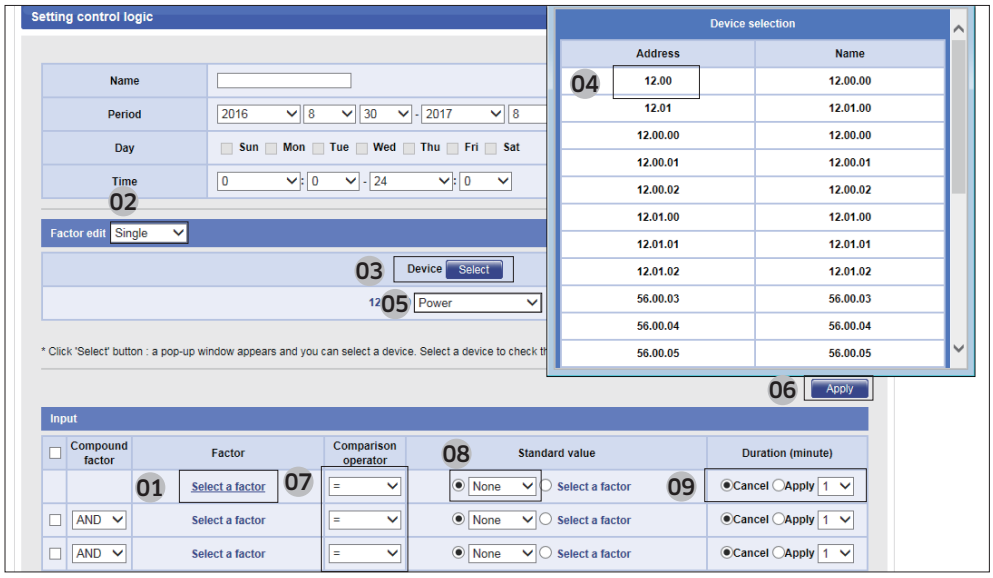
Type	Item	Value	Remarks
AHU	Current temp.	Number	Control impossible
	Desired temp.	Number	-
	Outdoor temp.	Number	Control impossible
	Operation mode	Auto, Cool, Dry, Fan, Heat	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Power	On, Off	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
DI	Status	On, Off	Control impossible
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
DO	Status	On, Off	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
Hydro Unit, Hydro Unit HT, Single EHS	Status	On, Off	Control impossible
	Status	On, Off	-
	Power	On, Off	-
	Current temp.	Number	Control impossible
	Desired temp.	Number	-
	Current water out temp.	Number	Control impossible
	Desired water out temp.	Number	-
	Outdoor temp.	Number	Control impossible

Type	Item	Value	Remarks
Hydro Unit, Hydro Unit HT, Single EHS	Operation mode	Auto, Cool, Heat	Hydro unit HT cannot set Cool mode
	DHW power	On, Off	-
	Current DHW temp.	Number	Control impossible
	Desired water out temp.	Number	-
	DHW mode	Eco, Standard, Power, Force	'Force' is only for Single EHS
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-
DVM CHILLER	Power	On, Off	-
	Current temp.	Number	Control impossible
	Desired temp.	Number	-
	Outdoor temp.	Number	Control impossible
	Operation mode	Cool, Cool Storage, Heat, Hot Water	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
FCU Kit	Power	On, Off	-
	Current temp.	Number	Control impossible
	Desired temp.	Number	-
	Operation mode	Auto, Cool, Fan, Heat	-
	Fan speed	Auto, Low, Mid, High	-
	RC usage	Enable RC, Disable RC, Cond. RC	-
	Error detection	True, False	Control impossible
	Limit operation mode	None, Cool only, Heat only	-

()* is used in Turkey.

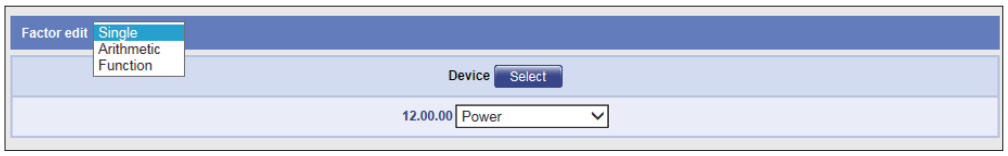
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Editing input factor

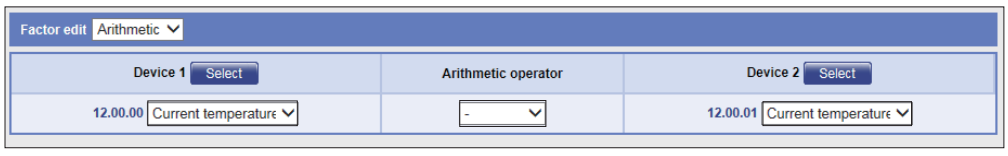


01 Click “Select a factor”. ▶ 02 Select type of the factor ▶ 03 Click “Select a device” ▶
04 Select the device from the list. ▶ 05 Select a detail item ▶ 06 Click “Apply”. ▶
07 Select the comparison operator ▶ 08 Select a standard value ▶ 09 Select the duration

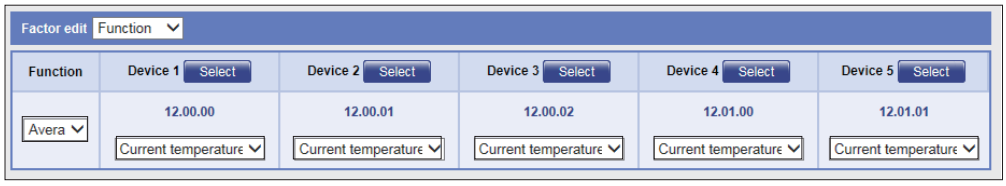
- Single factor: 1 device and 1 factor.



- Arithmetic: It means 2 devices are connected by arithmetic operator.

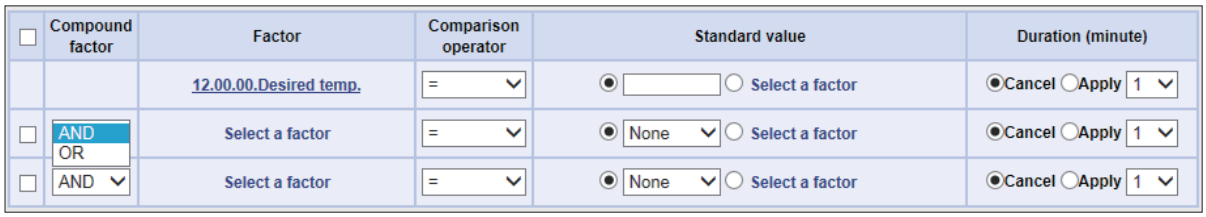


- Function: Use average value of various conditions from the device and create it as a factor.



()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*



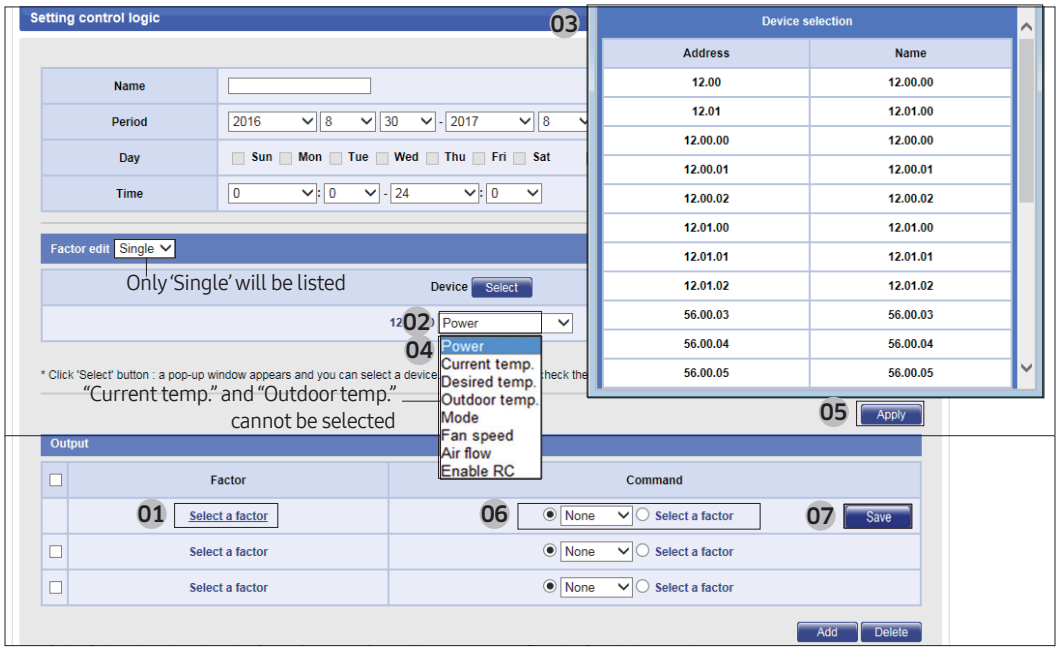
- Compound factor: AND, OR, No selection
  Ex) Apply 'AND' or 'OR' to 3 factors → (input 1) AND (input 2) OR (input 3)
- Comparison operator: =, =>, =<, <, >, ≠
- Standard value: Standard value of the factor
  Ex) When the factor is "Outdoor temperature of the indoor unit number 00", then standard value is value of the "Outdoor temperature". →"Outdoor temperature of the indoor unit number 00" > 20
- Duration: Duration can be set between 1~60 min.

Item	Comparison operator	Standard value
Power	=, ≠	On, Off
Current temp	=, =>, =<, <, >, ≠	Temperature value (number)
Desired temp	=, =>, =<, <, >, ≠	Temperature value (number)
Outside temp	=, =>, =<, <, >, ≠	Temperature value (number)
Mode	=, ≠	Auto, Cool, Dry, Fan, Heat
Fan speed	=, ≠	Auto, Low, Med, High
Air flow	=, ≠	Vertical, Horizontal, All, None
Enable RC	=, ≠	ON, OFF, Level 1
Trouble	=, ≠	True, False
Limit mode	=, ≠	None, Cool Only, Heat Only

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Editing output factor



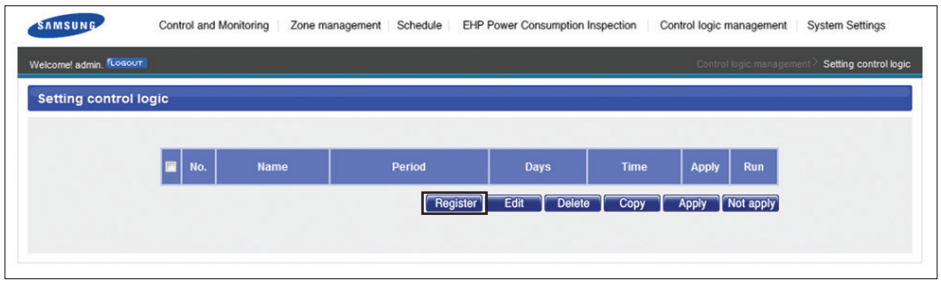
01 Click "Select a factor". ▶ 02 Click "Select a device". ▶ 03 Select the device from the list. ▶ 04 Select a detail item to control. ▶ 05 Click "Apply". ▶ 06 Select "Command". ▶ 07 Click "Save".

()* is used in Turkey.

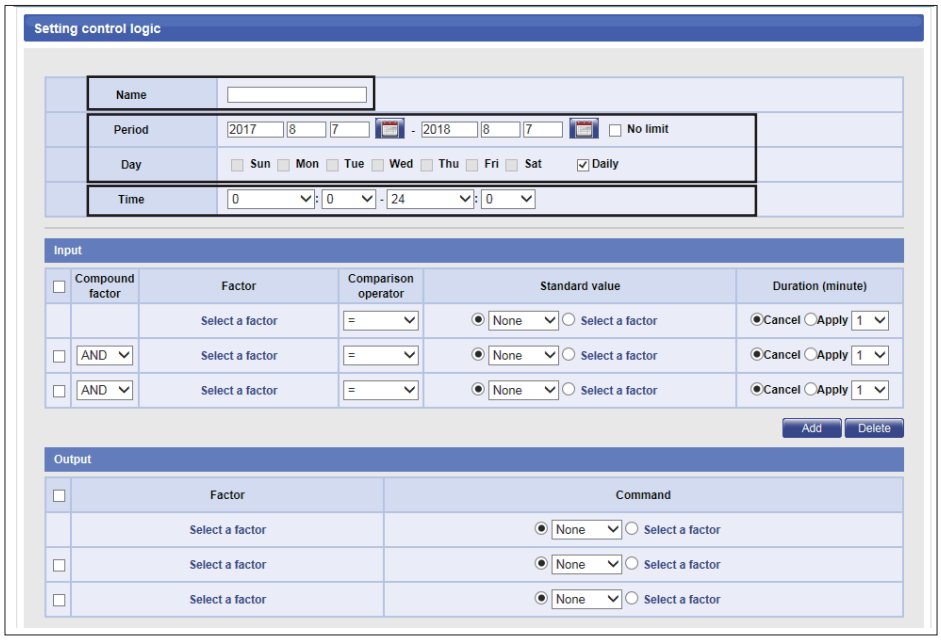
Control example – Setting

Ex) Set the ERV to turn off together when the indoor unit turns off

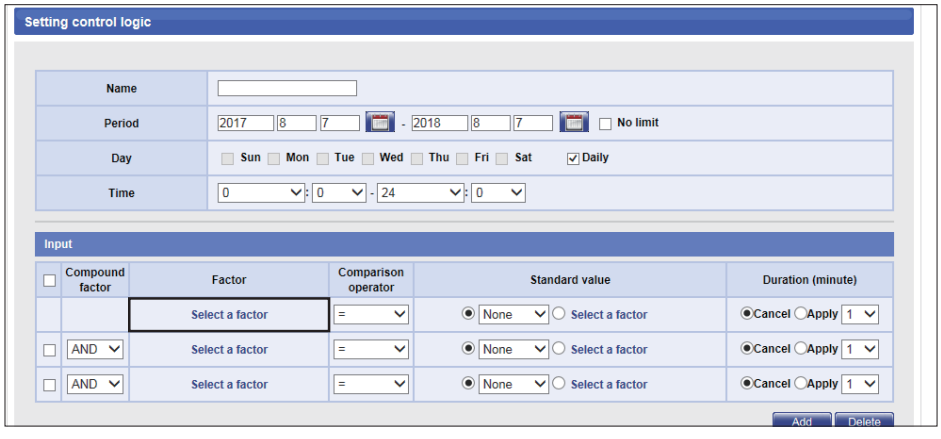
1 Click [Control logic management] → [Setting control logic] from DMS2.5 menu. Click [Register] to create new control logic.



2 Enter Name, period/day and time for new control logic.

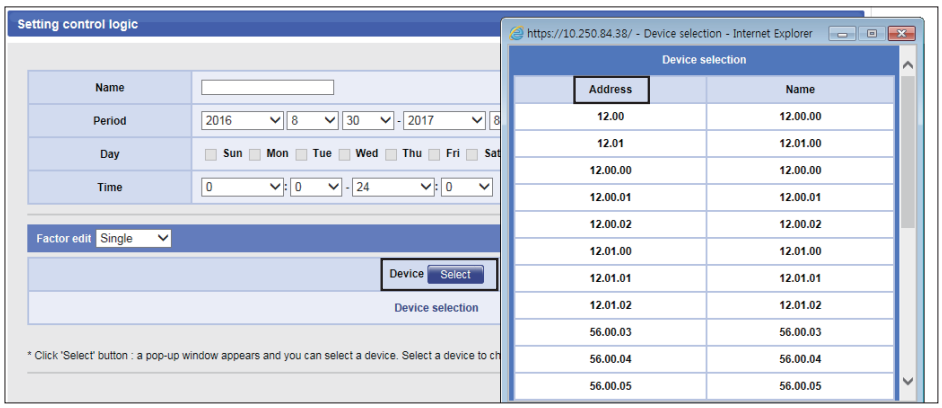


3 **Create input condition:** Click [Select a factor] from the 'Input' window.



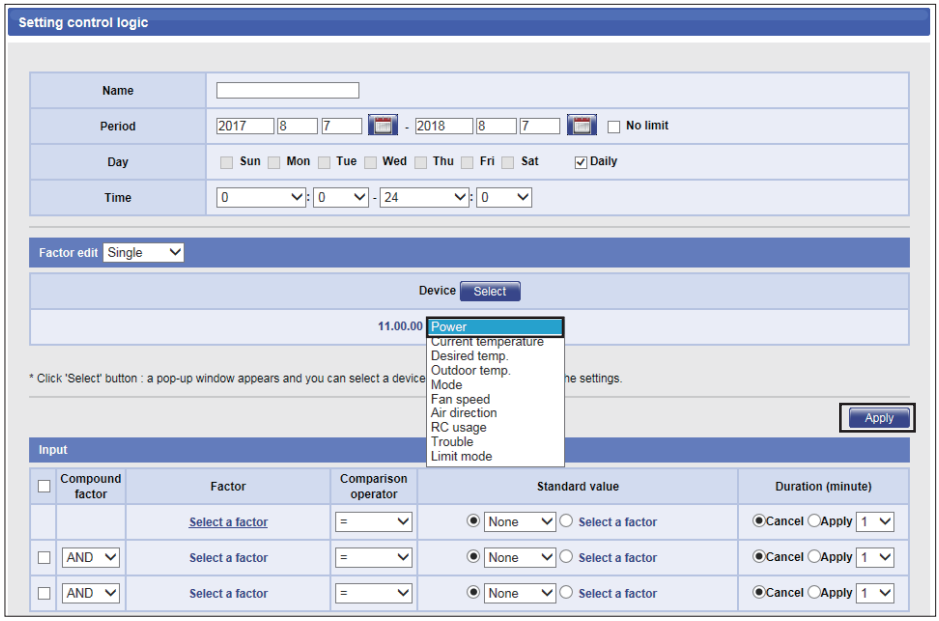
()* is used in Turkey.

4 Click [Select], then [Device selection] window will pop up.
Select a indoor unit to apply the new control logic.



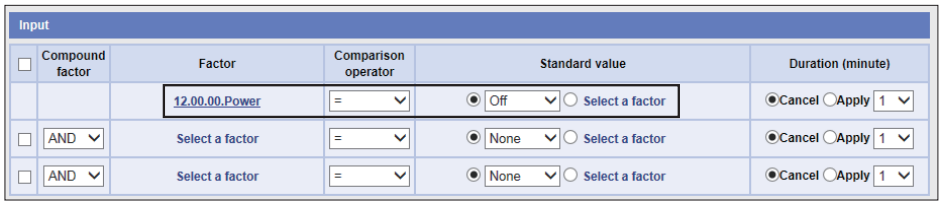
5 **Create input condition:** When the device is selected, click [Power] and click [Apply].

- [Power] means the operation state (On/Off).



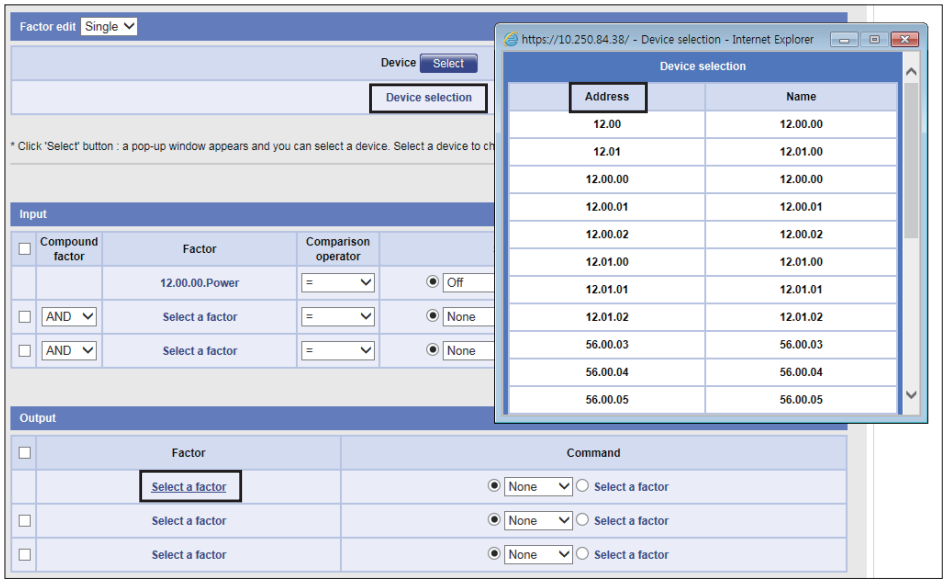
6 **Create input condition:** Select '=' as a comparison operator and select "Off" as a standard value.

- Meaning: Execute output control when 12.00.00 device is off.

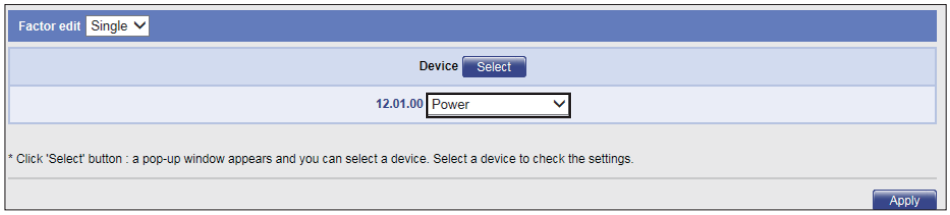


()* is used in Turkey.

7 **Create output:** From the output window, select the device to apply the control when input condition is satisfied. Click [Apply] when selection is completed.

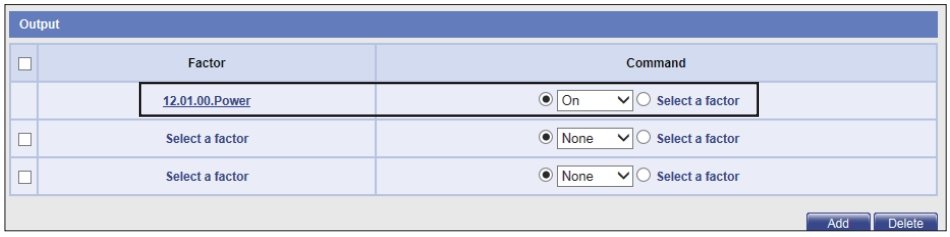


8 **Create output**: Select "Power" as a factor of the selected device and click [Apply].



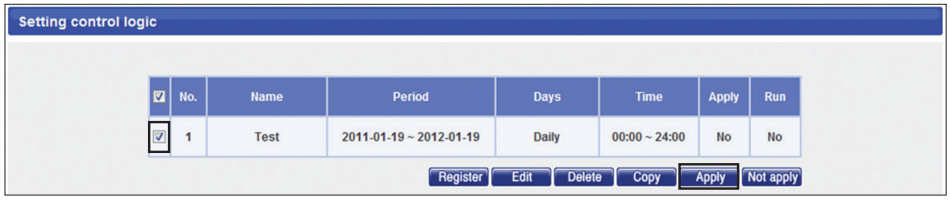
9 **Create output:** From the output window, select the control to be executed when input condition is satisfied.

- Turn off the ERV no. 0



10 Click [Save] when the setting is completed.

11 To apply the new logic control, select the created logic and click [Apply].

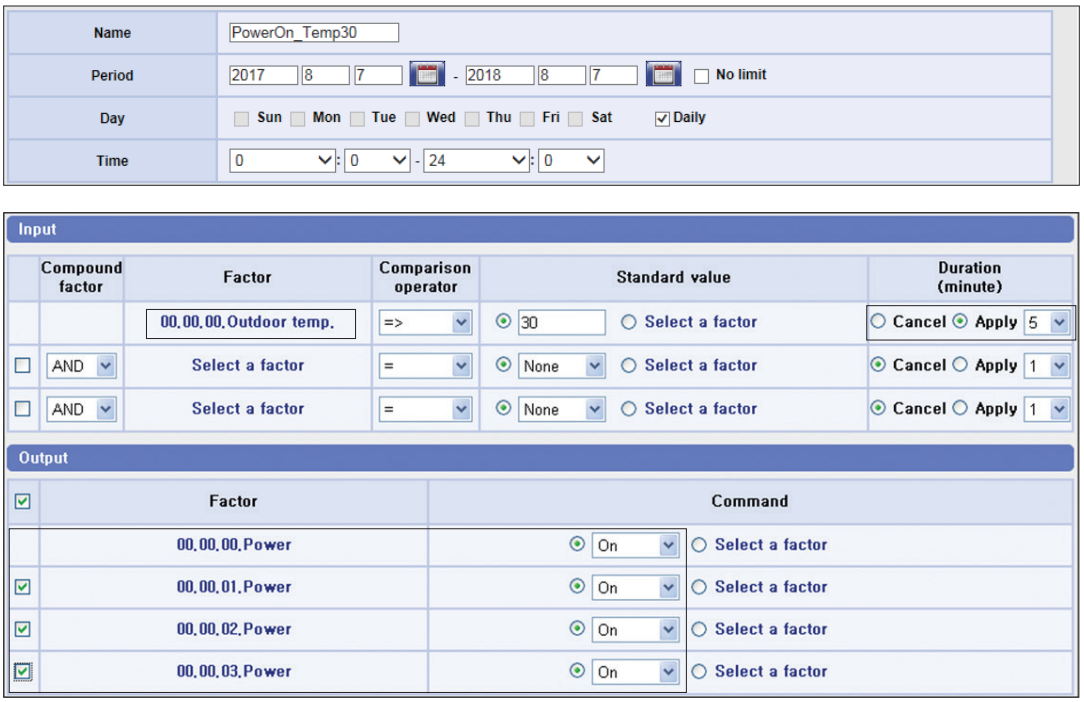


()* is used in Turkey.

Control example – Control logic

Ex) Control logic 1: Turn on 4 indoor units when outdoor temperature is 30°C or higher.
Control logic 2: Turn off 4 indoor units when outdoor temperature is 26°C.

- Control logic 1

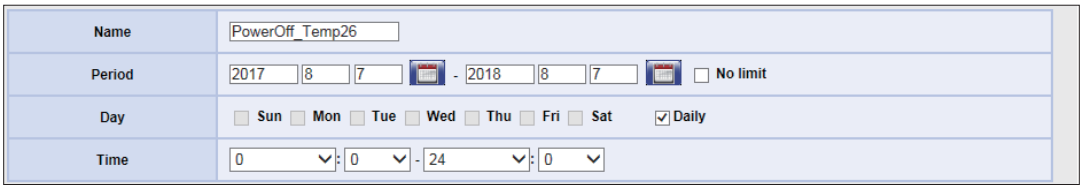


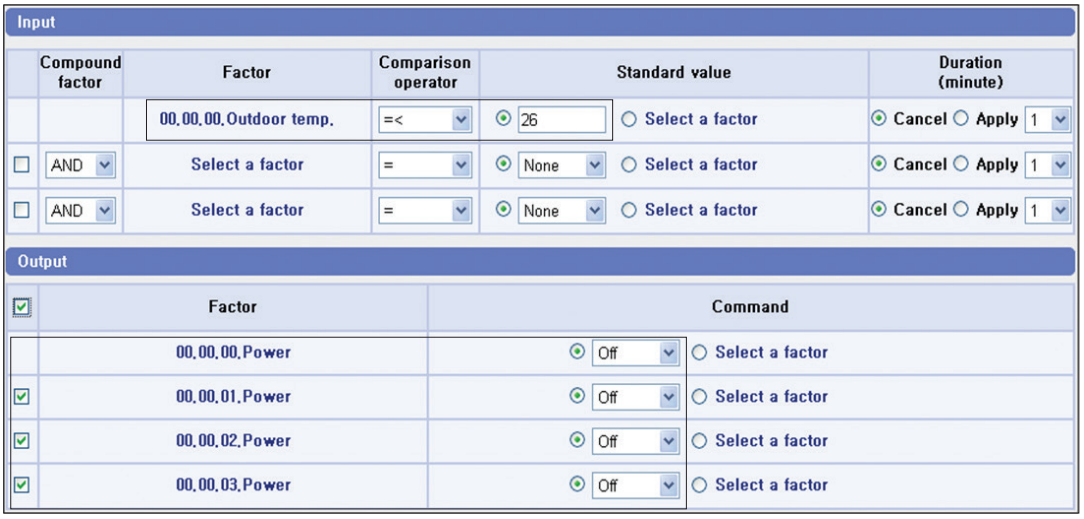
1. Input: When outdoor temperature is 30°C (86°F) or higher.
2. When condition 1 lasted for 5 miniute.
3. Output: Turn on 4 indoor units.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

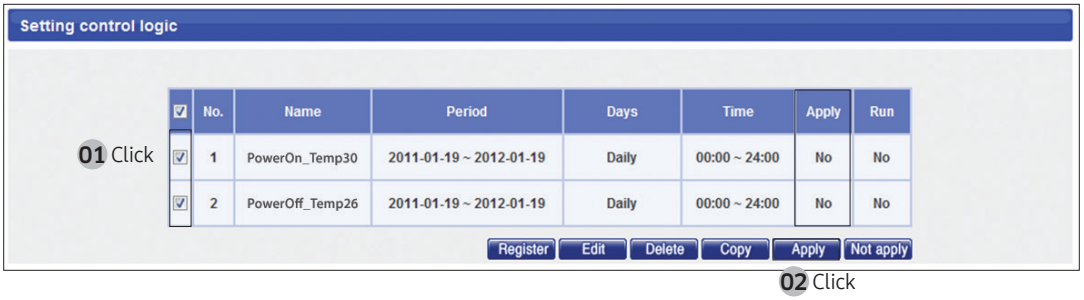
- Control logic 2





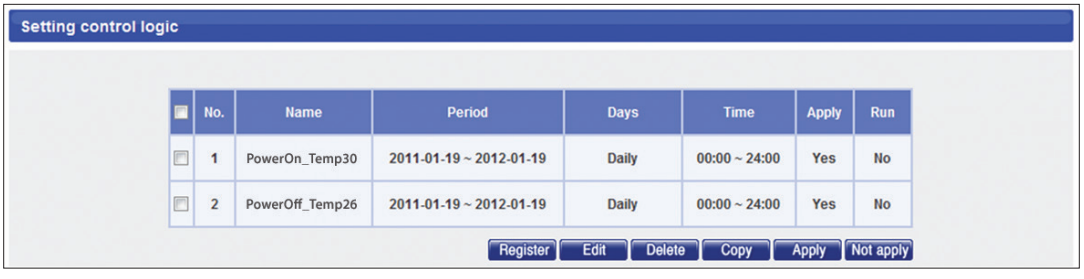
1. Input: When outdoor temperature is 26°C(78°F) or lower.
2. Output: Turn off 4 indoor units.

- Register control logic



▼

- Control logic applied



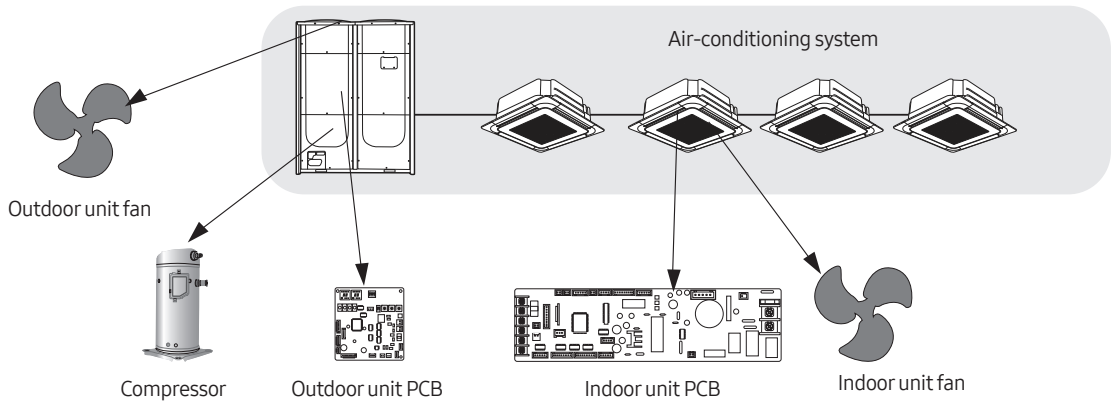
Application completed

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Power distribution

Where does power consumption occurs?

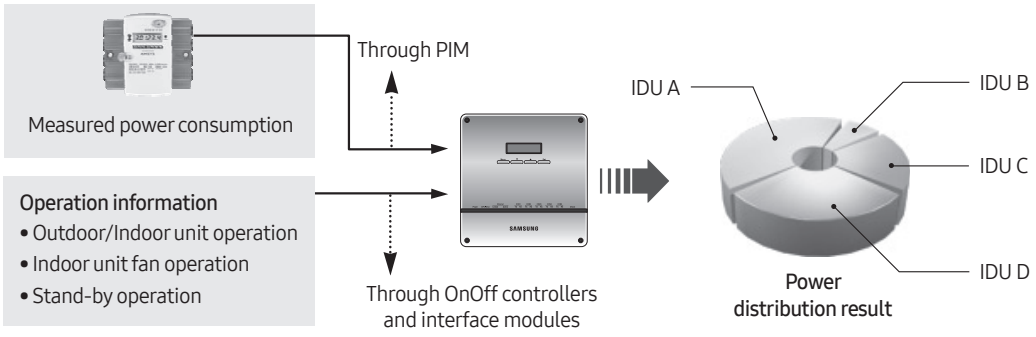


System power consumption includes:

- **Main power -** Compressor operation power
- **Fan power -** Indoor/Outdoor unit fan operation
- **Stand-by power -** Preheating coil power, Indoor/Outdoor PCB power

DMS2.5 power distribution theory

All the system information of power and indoor/outdoor operation is always monitored by the DMS2.5 for power distribution calculation.



$$\text{IDU A's electric power consumption} = \text{Total power consumption} \times \frac{\text{Demand capacity of IDU A}}{\text{Total demand capacity of all IDUs}}$$

Here, Demand capacity = Main capacity + Fan capacity + Stand-by capacity

Note

- Demand capacity means the value that parameters of different units like required power and refrigerant amount are transformed into as a common number to make easy algebraic calculation.
- Power distribution is not supported to ERV, DVM CHILLER, FCU KIT.
- You can check DVM CHILLER's power consumption in the meter history menu. (PIM and watt-hour meter must be connected)

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Main capacity

This is determined dynamically with the combination of various refrigerating parameters such as difference between room and set temperature or evaporator input/output temperature.

These parameters, as a result, determine the refrigerant amount flowing into the indoor unit by controlling EEV steps.

Fan capacity

This is constant value for indoor unit models. It differs depending on indoor units of different capacity.

When the indoor unit starts Cooling, Heating, Auto and Fan modes, fan capacity values of the indoor units are always monitored by the DMS2.5. DMS2.5 gathers capacity of zero value when they stop operating.

Stand-by capacity

Stand-by capacity is constant for all indoor units regardless of their operations. Since stand-by power is consumed all the time by PCBs and preheating coils in the outdoor unit, whose value is monitored with the same fraction which is relatively small compared to main capacity or fan capacity.

What if the room temperature begins to reach the set temperature?

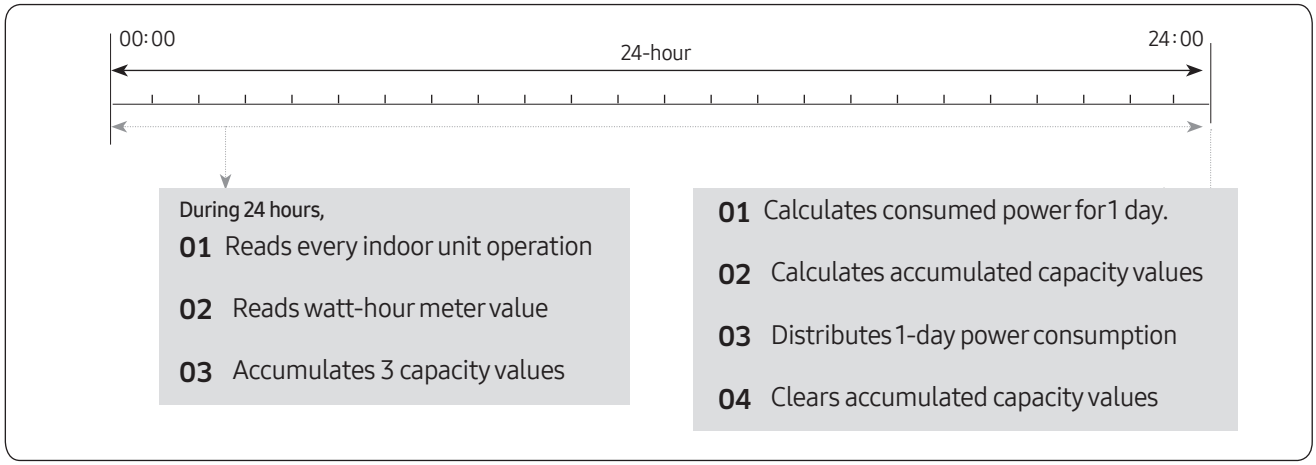
If the room temperature begins to reach the set temperature, the indoor unit does not have to extract the full refrigerant amount to keep the set condition. Capacity from the indoor unit goes down to indicate the outdoor unit that it does not need refrigerant at the full capacity state.

When the room temperature has reached the set temperature, there is no need to pump the refrigerant into the indoor unit. Indoor unit goes into the thermally OFF state and sends capacity of zero value to the outdoor unit and the DMS2.5, which results in fan or stand-by power distribution only.

Capacity accumulation and power distribution

DMS2.5 gathers power consumption and capacity values during one-day.

At midnight, 1-day power consumption is distributed to the indoor units using the gathered information.

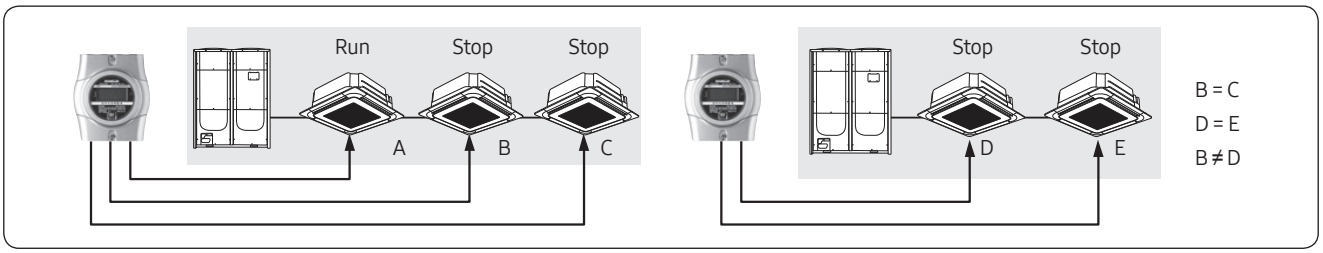


()* is used in Turkey.

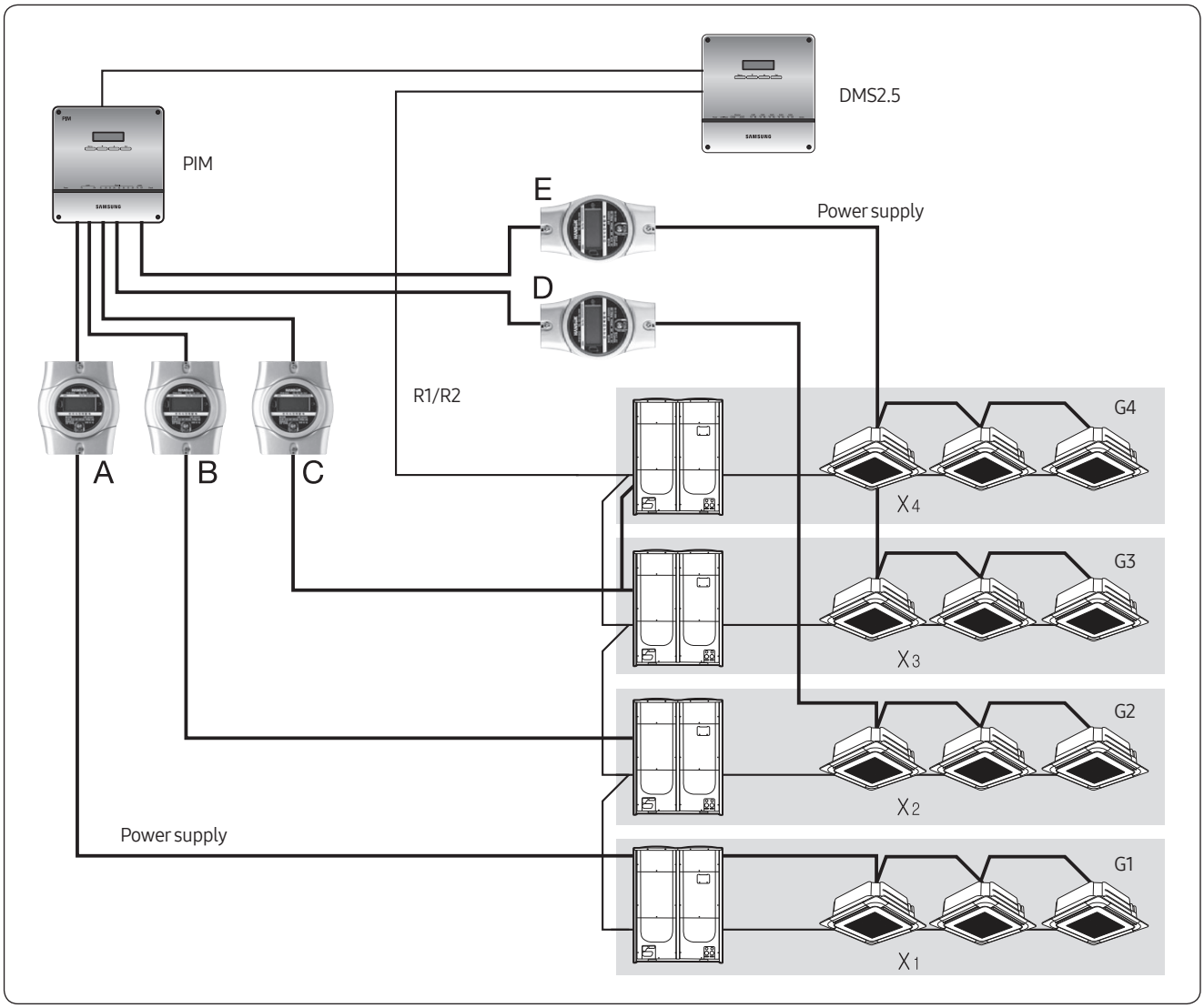
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Not equal stand-by power distribution (In case all the indoor units are stopped)

Since there always exists error in each power consumption amount, distributed stand-by power may not be equal for different air-conditioning system. But the difference is so small that it is negligible.



- Power distribution equation



()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- When configuring the DMS2.5 and the whole system, mapping of watt-hour meters for indoor/outdoor units must be precisely assigned for correct power distribution.

$$\text{Indoor unit power X in G1} = \text{Watt-hour A} \times \frac{\text{Main + Fan + Stand-by capacity of indoor unit X}}{\text{Total capacity of G1}}$$

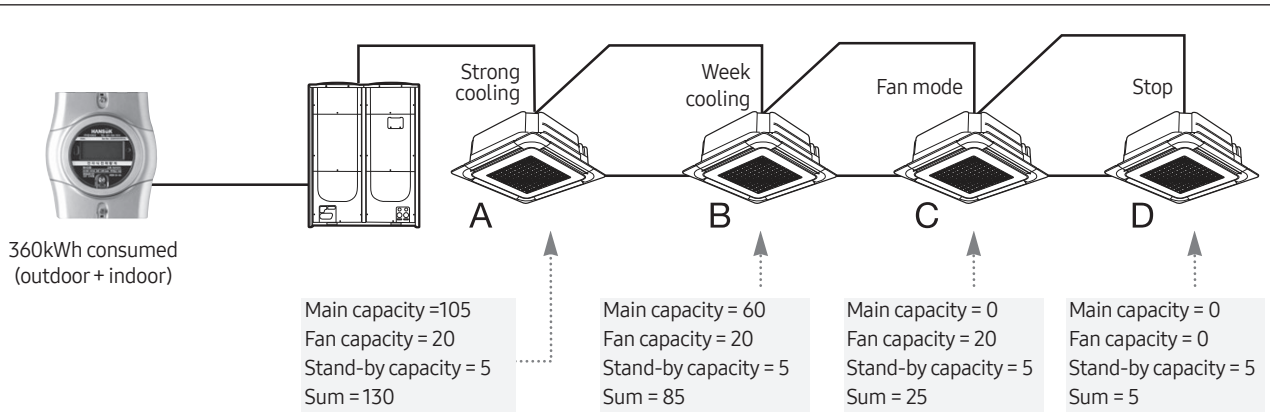
$$\text{Indoor unit power X in G2} = \text{Watt-hour B} \times \frac{\text{Main + Fan + Stand-by capacity of indoor unit X}}{\text{Total capacity of G2}}$$

$$+ \text{Watt-hour D} \times \frac{\text{Main + Fan + Stand-by capacity of indoor unit X}}{\text{Total capacity of G2}}$$

$$\text{Indoor unit power X in G3+G4} = \text{Watt-hour C} \times \frac{\text{Main + Fan + Stand-by capacity of indoor unit X}}{\text{Total capacity of G3 + G4}}$$

$$+ \text{Watt-hour E} \times \frac{\text{Main + Fan + Stand-by capacity of indoor unit X}}{\text{Total capacity of G3+G4}}$$

- Example
  Suppose capacity values accumulated at 24:00 during one whole day is as follows.



$$\text{Pd of Indoor unit A} = \frac{\text{Indoor unit capacity}}{\text{Total capacity}} \times \text{Total kWh} = \frac{130 \times 360}{130 + 85 + 25 + 5} = 192.020 \text{ kWh}$$

$$\text{Pd of Indoor unit B} = \frac{85 \times 360}{130 + 85 + 25 + 5} = 124.900 \text{ kWh}$$

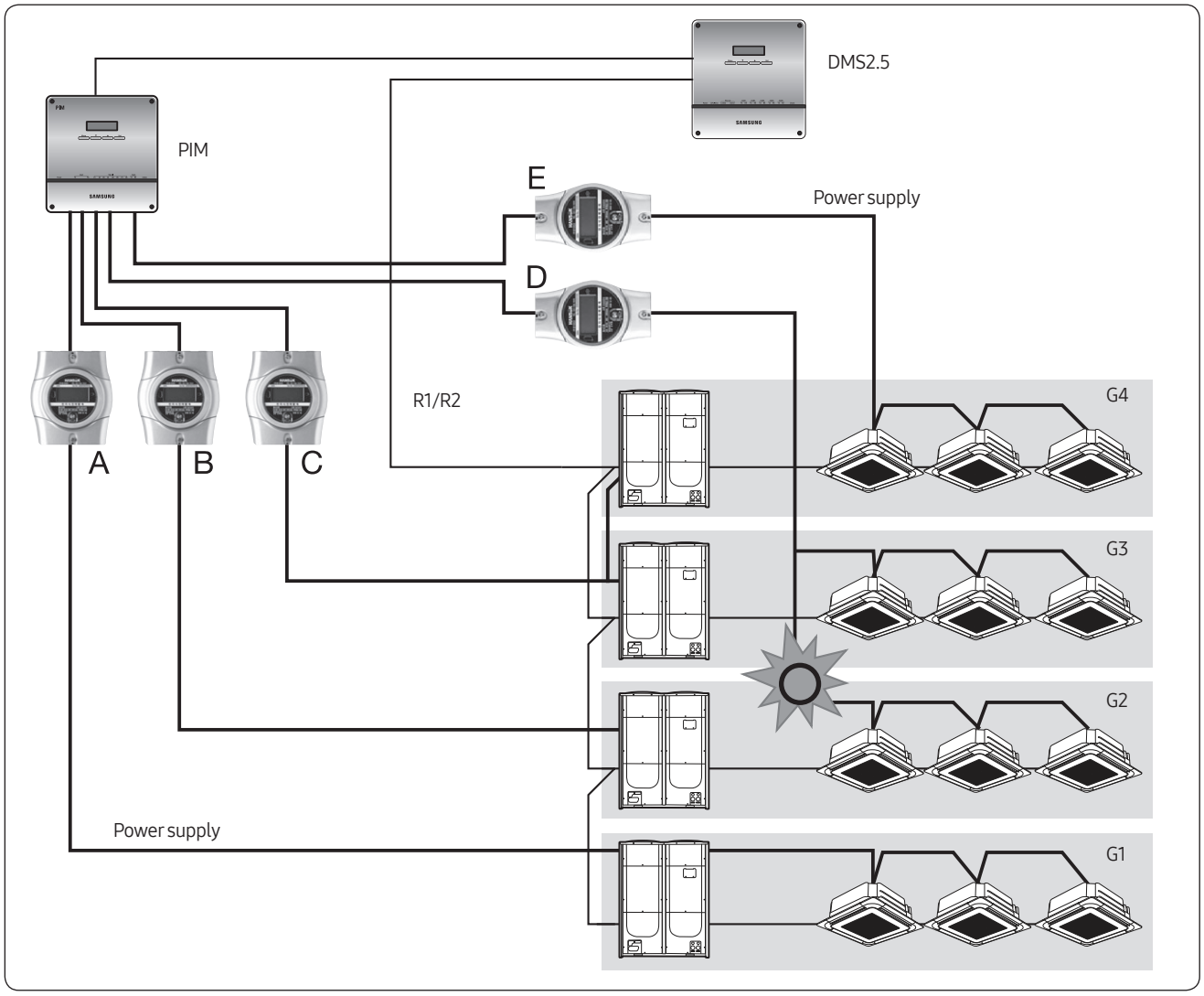
$$\text{Pd of Indoor unit C} = \frac{25 \times 360}{130 + 85 + 25 + 5} = 36.735 \text{ kWh}$$

$$\text{Pd of Indoor unit D} = \frac{5 \times 360}{130 + 85 + 25 + 5} = 7.347 \text{ kWh}$$

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Installation example (Allowed)



Mapping watt-hour meters to indoor/outdoor units

- Watt-hour meter A is mapped to all indoor/outdoor units in G1.
- Watt-hour meter B is mapped to the outdoor unit in G2.
- Watt-hour meter C is mapped to the outdoor units in G3 and G4.
- Watt-hour meter D is mapped to the indoor units in G2 + G3.
- Watt-hour meter E is mapped to the indoor units in G4.
- Installation above is allowed with proper mapping configuration.

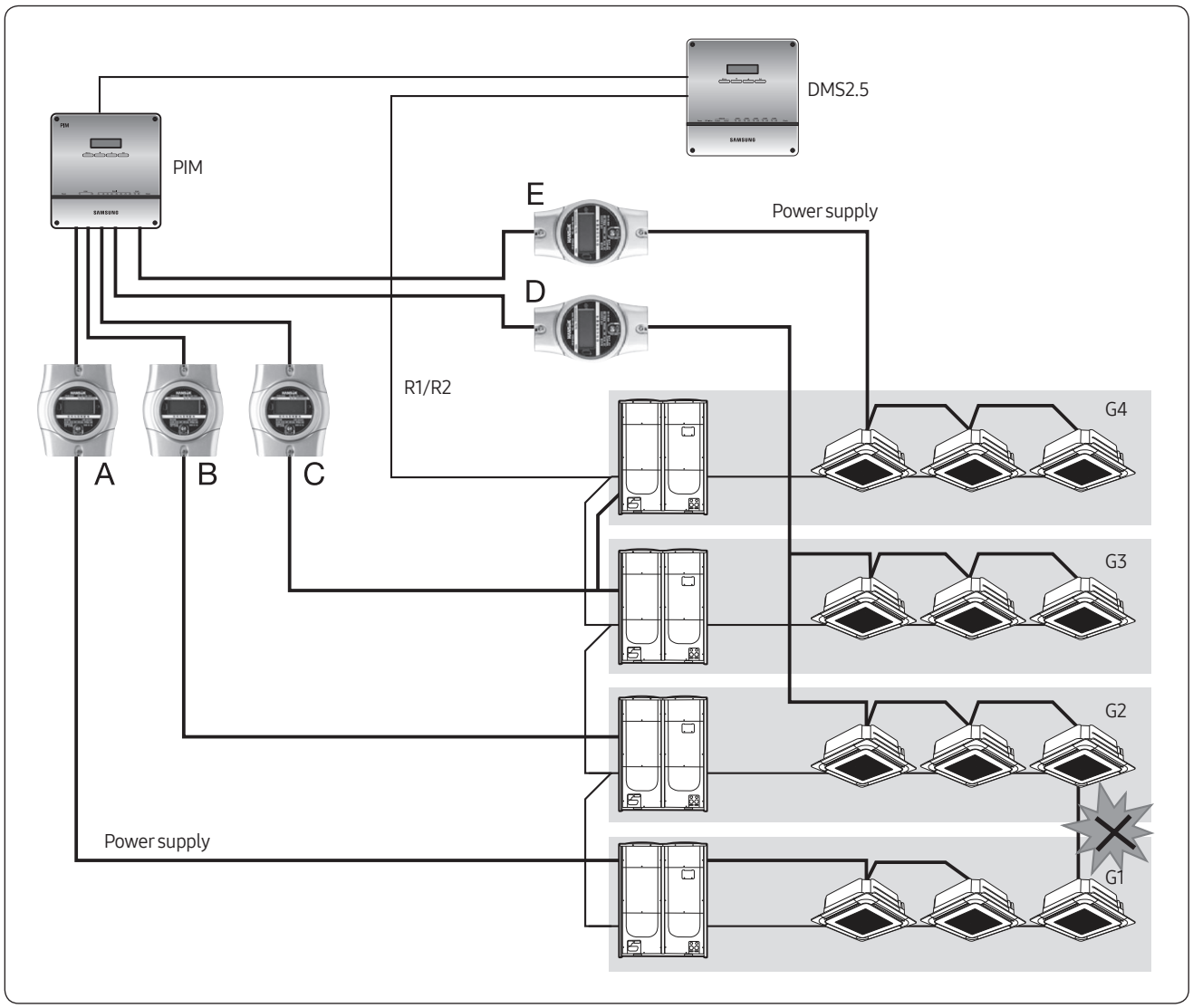
Note

- Watt-hour meter can be shared to the multiple indoor/outdoor systems.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Installation example (Not allowed)



All indoor units in one outdoor unit must have the same power source.

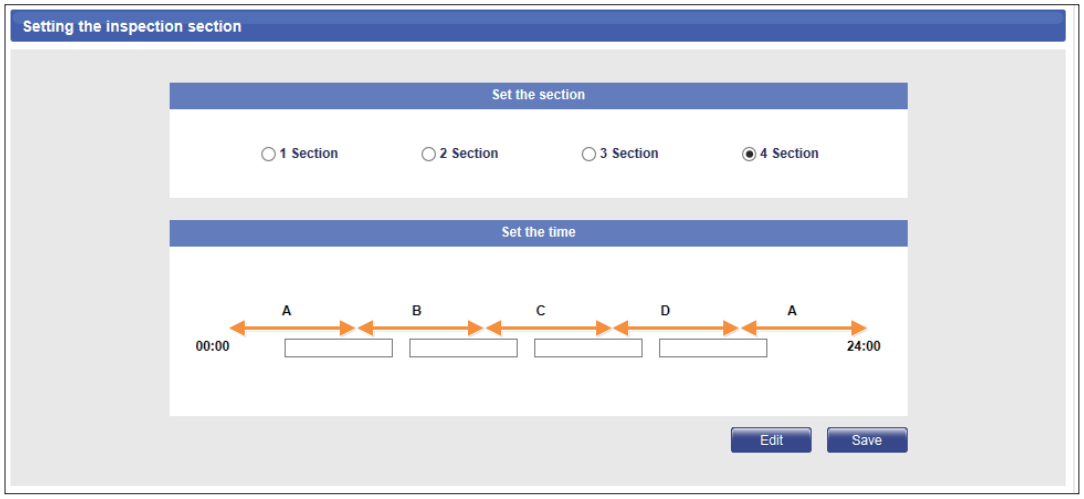
- Installation above cannot be available for the reason that one indoor unit in G1 has different power source from the other indoor units. In this case, fractional power of D consumed by the separate-powered indoor unit in G1 is distributed to the indoor units in G2 and G3.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Setting the inspection section

If you want to check the distribution result by time period, set the time section.
You must use S-NET3 to check the distribution result by time period.



Setting the power distribution environment

This is important task for checking precise energy consumption of the outdoor/indoor unit. Each watt-hour meter connected to outdoor unit must be checked for which channel of the PIM interface module it is connected.
Then PIM channel must be set according to the outdoor unit.

Indoor units must be checked which watt-hour meter it is connected to and then PIM channel of the corresponding watt-hour meter must be set according to indoor unit PIM channel as shown below.

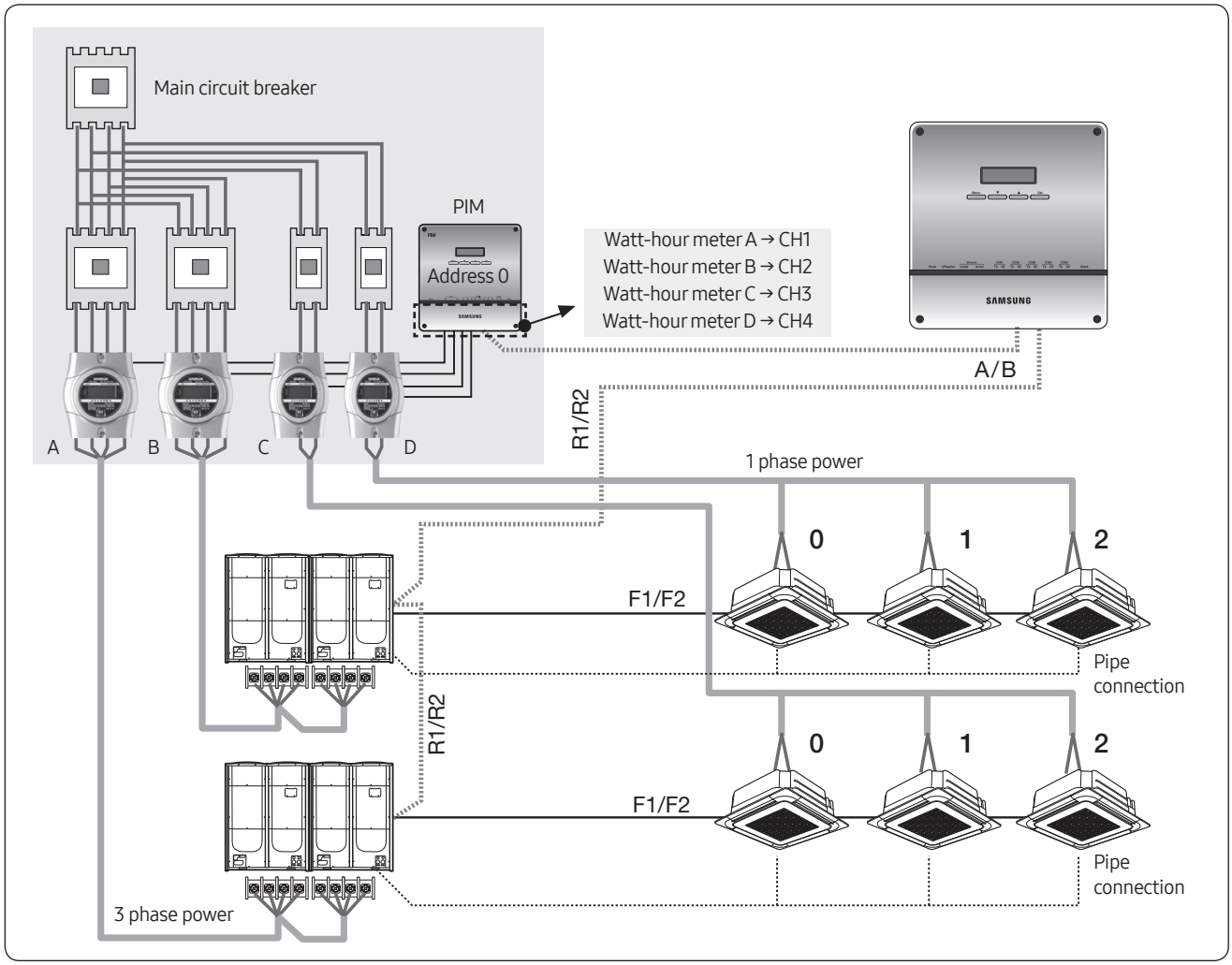
Channel setting by indoor unit

Indoor unit address	Indoor unit name	Outdoor unit SIM / PIM channel				Indoor unit SIM / PIM channel	Outdoor unit virtual channel	Indoor unit virtual channel
		Channel1	Channel2	Channel3	Channel4			
13.00.00	13.00.00	16.1				16.3		
13.00.01	13.00.01	16.1				16.3		
13.00.02	13.00.02	16.1				16.3		
13.01.00	13.01.00	16.2				16.4		
13.01.01	13.01.01	16.2				16.4		
13.01.02	13.01.02	16.2				16.4		

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- Example of watt hour meter installation 1
  Installing watt-hour meter to outdoor/indoor unit



Channel setting by indoor unit

Indoor unit address	Indoor unit name	Outdoor unit SIM / PIM channel				Indoor unit SIM / PIM channel	Outdoor unit virtual channel	Indoor unit virtual channel
		Channel1	Channel2	Channel3	Channel4			
13.00.00	13.00.00	16.1				16.3		
13.00.01	13.00.01	16.1				16.3		
13.00.02	13.00.02	16.1				16.3		
13.01.00	13.01.00	16.2				16.4		
13.01.01	13.01.01	16.2				16.4		
13.01.02	13.01.02	16.2				16.4		

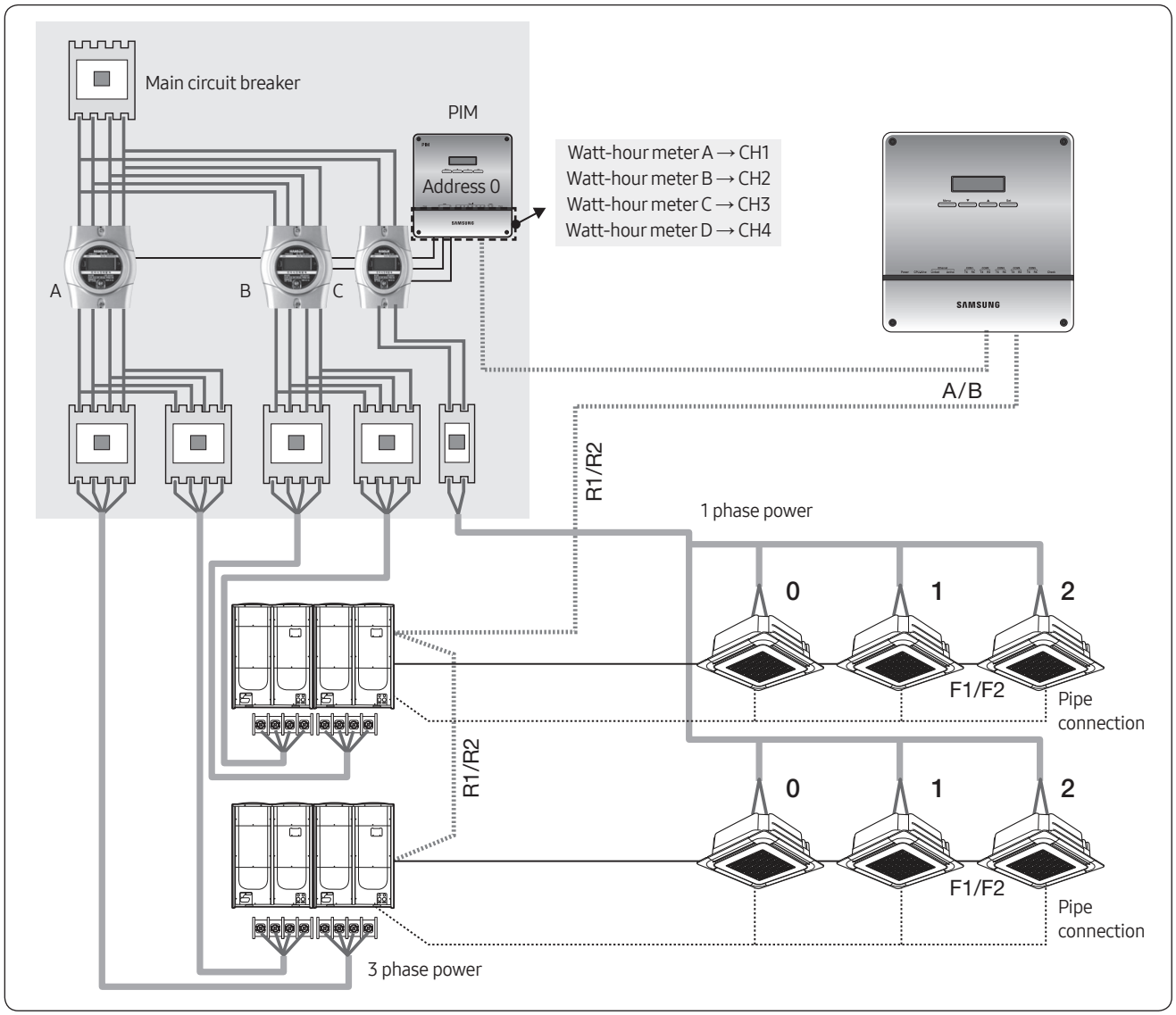
⚠ Caution

- Connect appropriate watt-hour meter to outdoor/indoor unit.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- Example of watt hour meter installation 2
  Installing 1 watt-hour meter to all indoor units



Channel setting by indoor unit

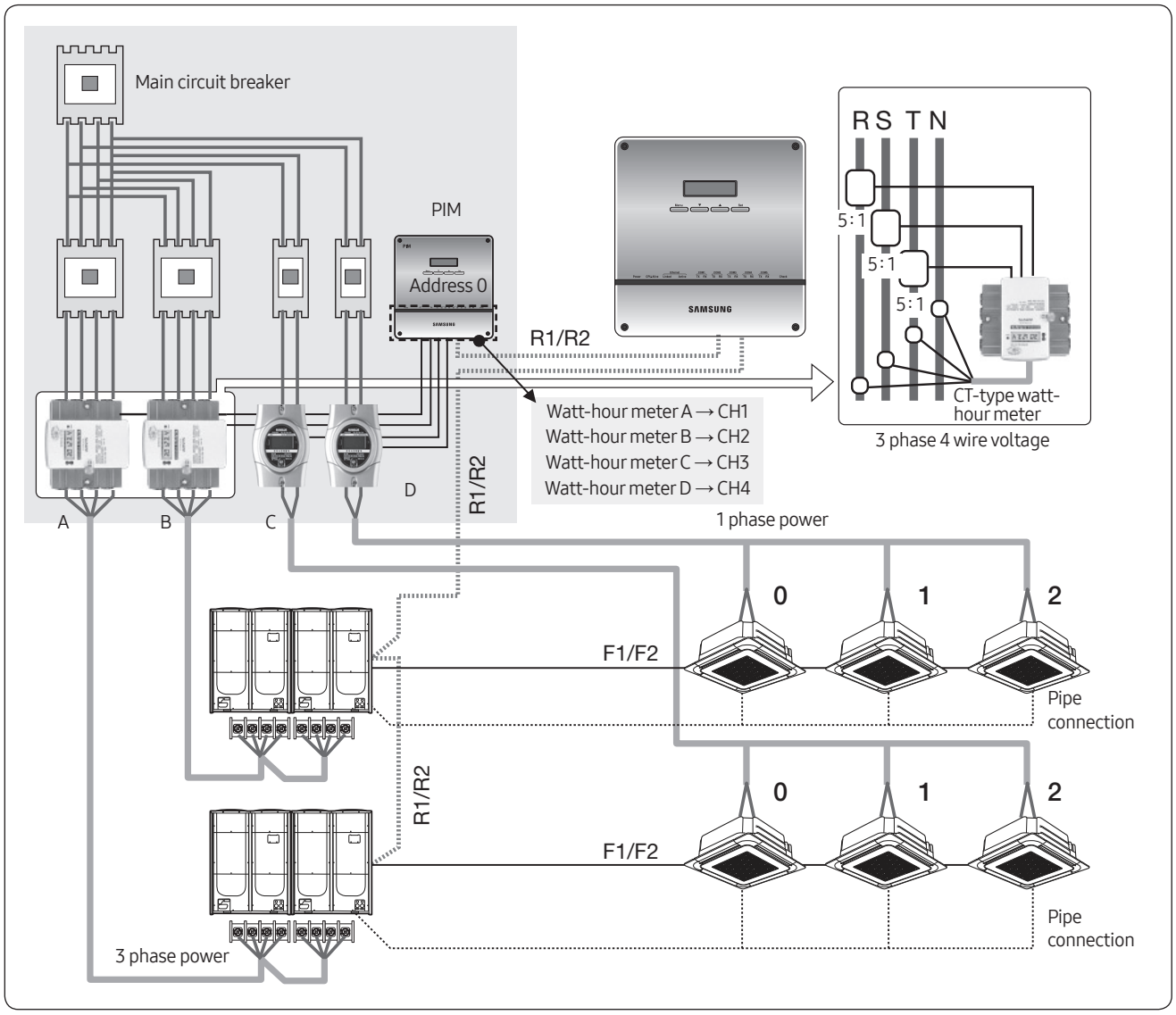
Indoor unit address	Indoor unit name	Outdoor unit SIM / PIM channel				Indoor unit SIM / PIM channel	Outdoor unit virtual channel	Indoor unit virtual channel
		Channel1	Channel2	Channel3	Channel4			
13.00.00	13.00.00	16.1				16.3		
13.00.01	13.00.01	16.1				16.3		
13.00.02	13.00.02	16.1				16.3		
13.01.00	13.01.00	16.2				16.3		
13.01.01	13.01.01	16.2				16.3		
13.01.02	13.01.02	16.2				16.3		

Since all indoor units are connected to 1 watt-hour meter, PIM channel address of all indoor units is same.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- Example of watt hour meter installation 3
  Using CT watt-hour meter to and outdoor unit



Setting and checking watt-hour meter — Kilowatthour history

SIM / PIM Channel	Name	CT proportion	Watt-hour meter value (kWh)
16.1	16.1	5	100.0
16.2	16.2	5	100.0
16.3	16.3	1	100.0
16.4	16.4	1	100.0
16.5	16.5	1	100.0
16.6	16.6	1	100.0
16.7	16.7	1	100.0
16.8	16.8	1	100.0

[Setting and checking watt-hour meter]
From the menu, CT proportion of the CT watt-hour meter must be entered.

Note

- After entering CT proportion of the CT watt-hour meter, watt-hour meter must be set to correct outdoor/ indoor units from the [Channel setting by indoor unit] window.

()* is used in Turkey.

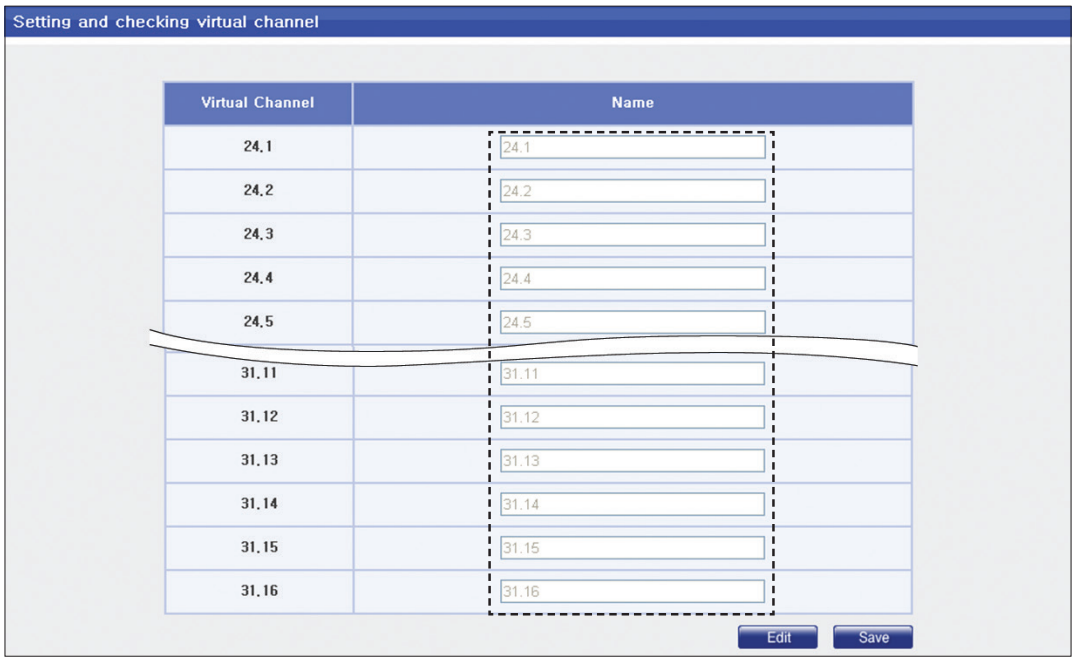
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- Checking the watt-hour meter connection
  Kilowatthour history of the watt-hour meter, connected to each PIM interface module, can be checked.
  Maximum 365 days worth of Kilowatthour history can be checked.

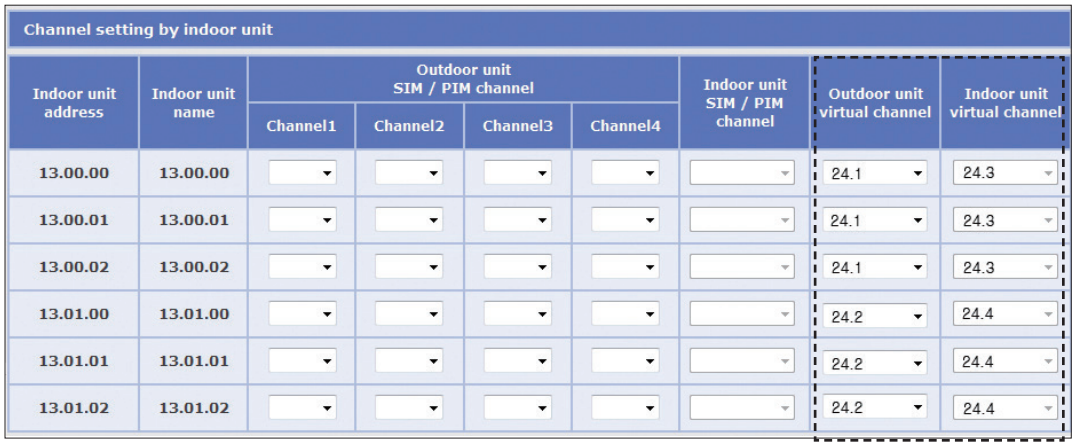
()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

- Setting virtual watt-hour meter
  When watt-hour meter or PIM interface module is not installed to a watt-hour meter channel, virtual channel can be used to manually distribute the power distribution



- Maximum 128 virtual channel can be used.
- Address of the virtual channel will be displayed as following. (24~31).(1~16)



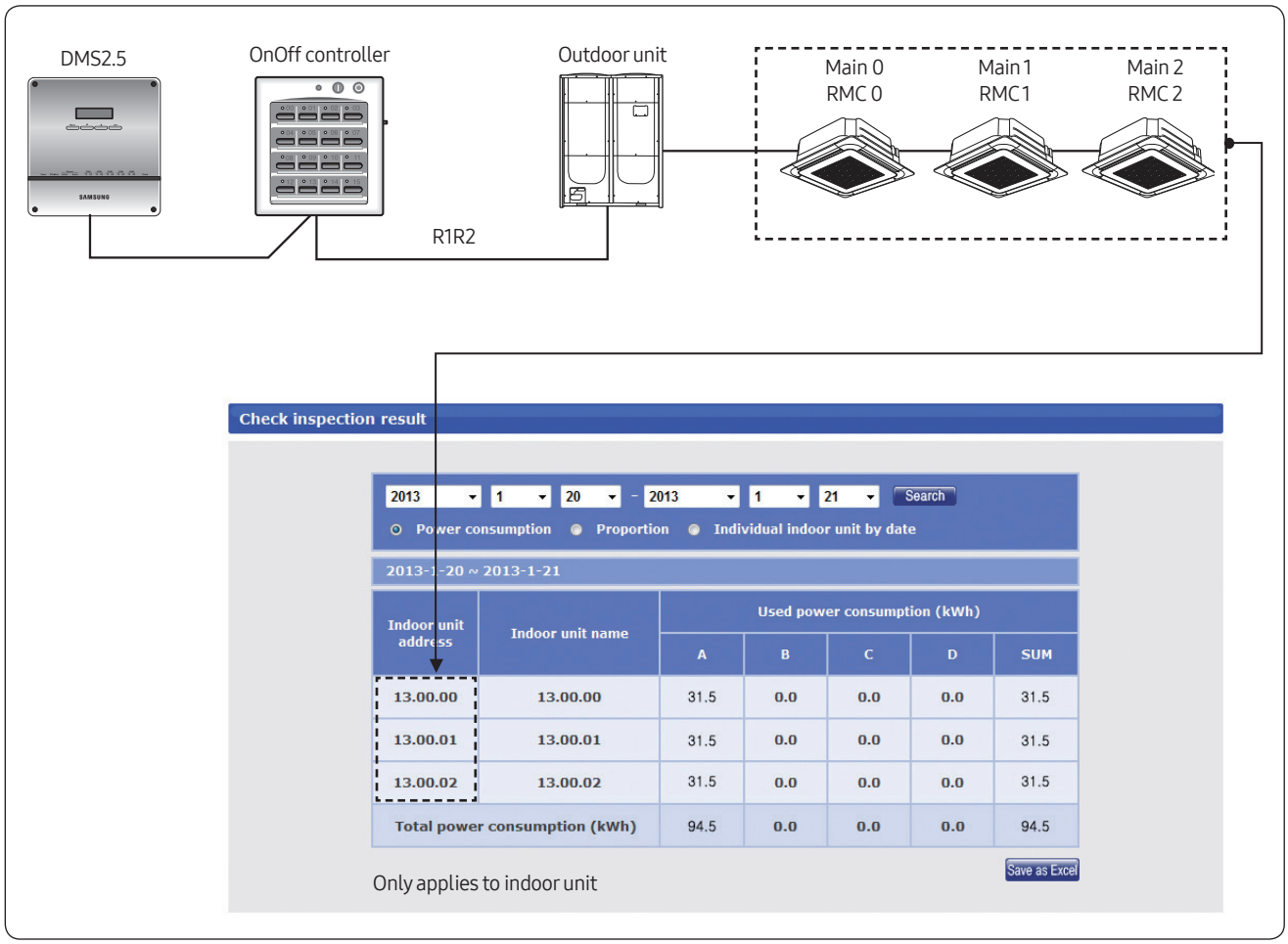
Note

- When PIM interface module is not installed, PIM channel of the outdoor/indoor unit will be inactive.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

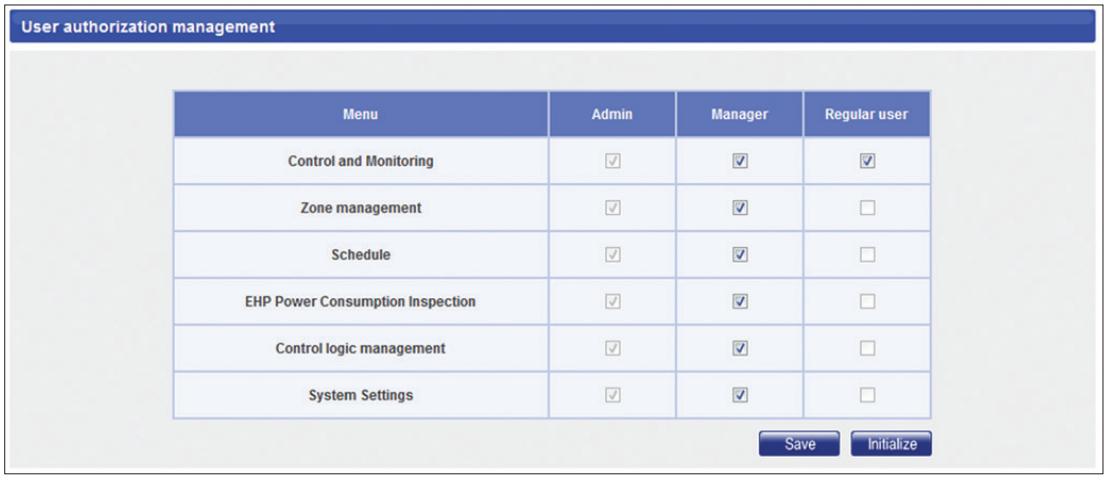
- Caution
  Power distribution function is only supported to air conditioners and AHU. ERV is not supported.



()* is used in Turkey.

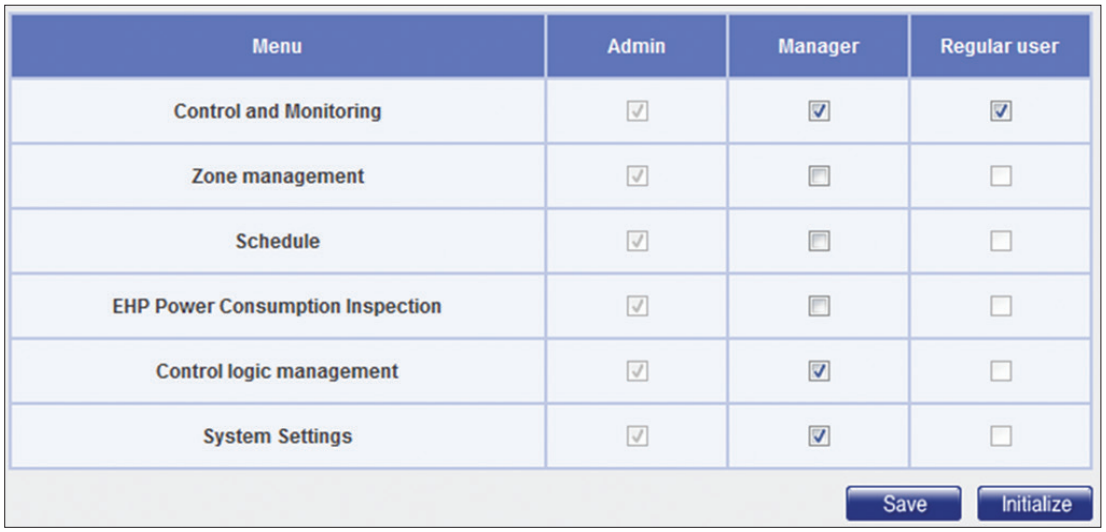
DMS2.5 > MIM-D01AN (MIM-D01ARN)*

User authorization management



- Admin (Administrator): Can access all menus, accessible menu cannot be changed
- Manager: Default setting – Can access all menus, accessible menu can be changed.
- Regular user: Default setting – Can access [Control and monitoring] menu only.

Editing user authorization

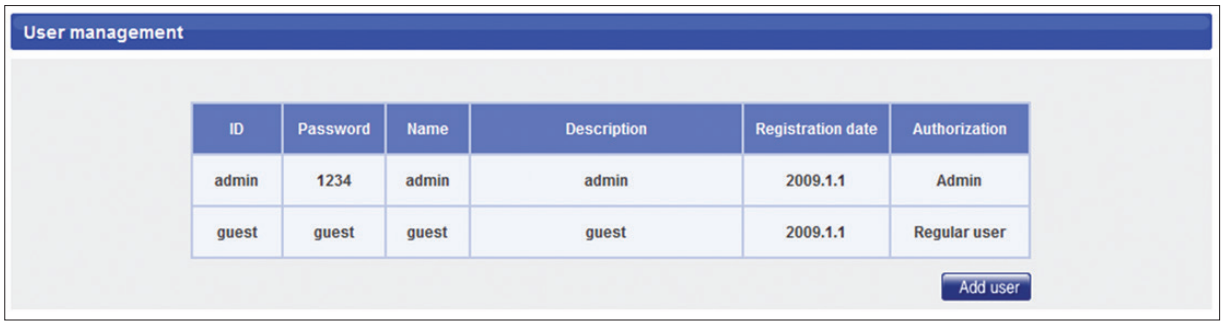


- Accessible menu authorization of manager is editable.
  Select/deselect the checkbox of the function and save the setting to change the authorization.

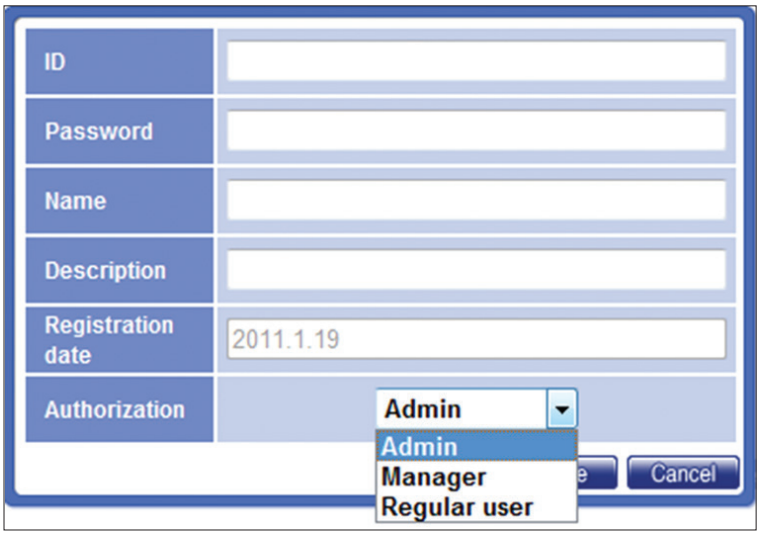
()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

User management



- You can add or delete the user who access DMS2.5 through web.



- Authorization of the added user can be set from [Admin], [Manager], [Regular user].

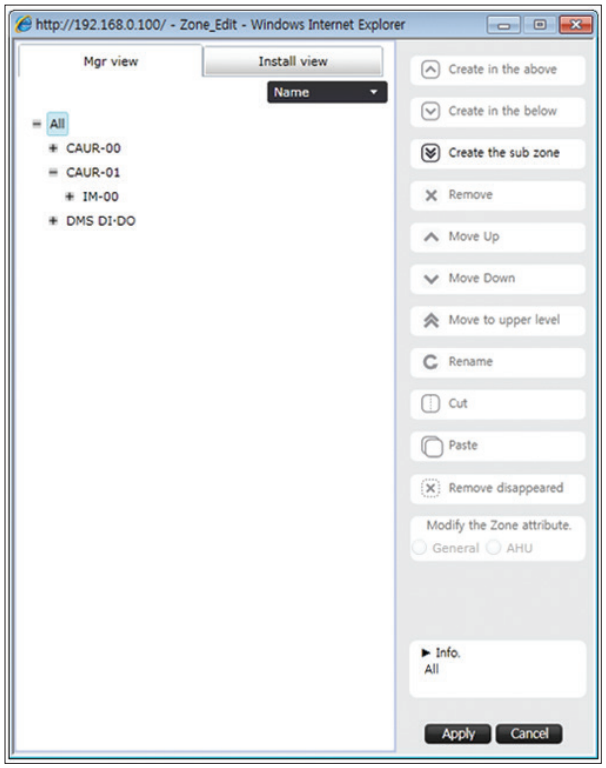
()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

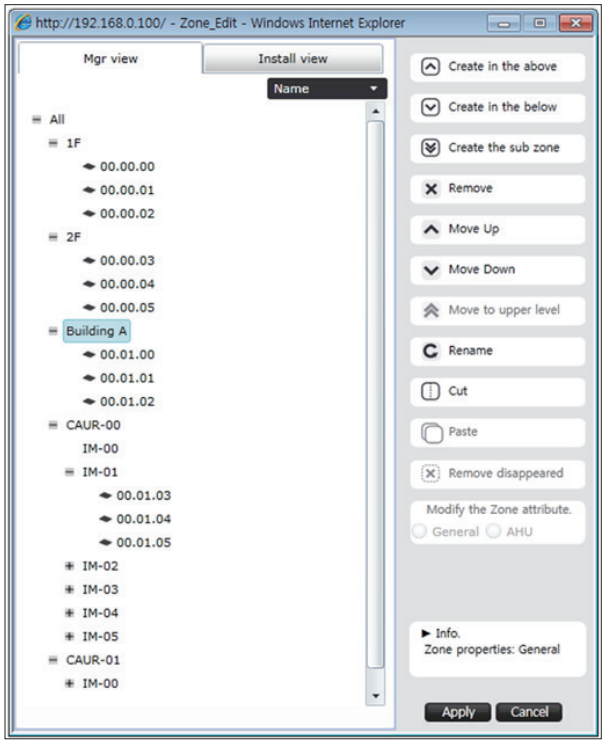
Zone management

- Zone edit: User can arrange the indoor units for convenient management.
- Setting the user authorization: Can restrict accessible indoor units depending on the user ID.

Zone edit



Initial setting

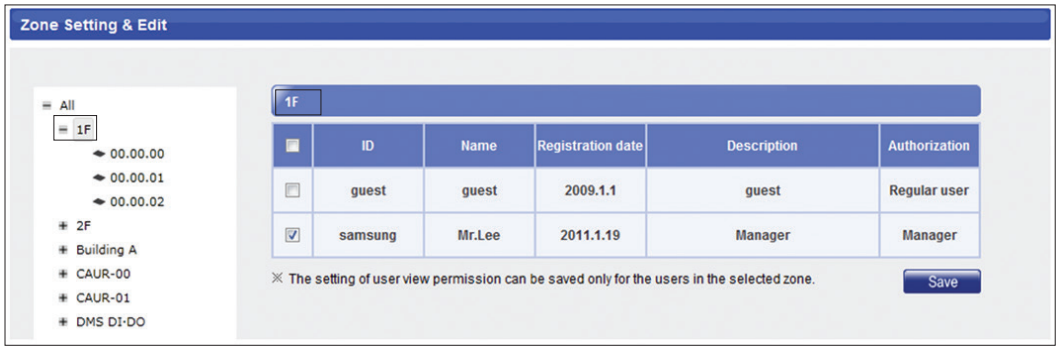


Zone edit :

- Add, delete zone
- Change name
- Move indoor unit

()* is used in Turkey.

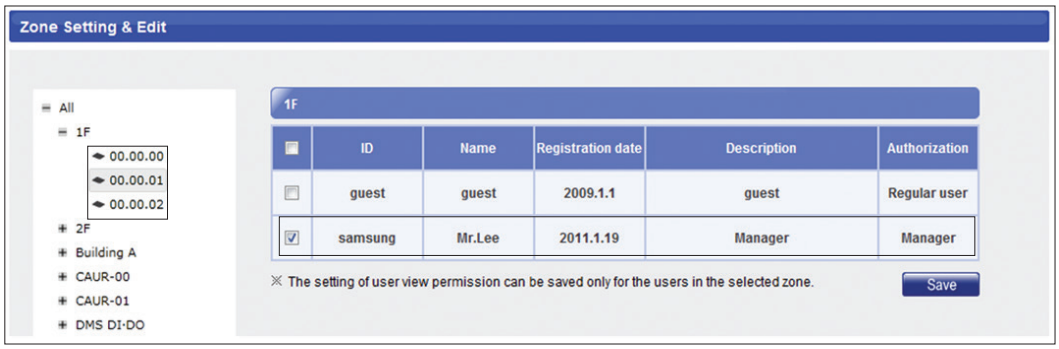
Setting the user authorization



- Authorization to control and monitor a zone of indoor units can be assigned according to User ID

1 Select the zone and select a user ID who can access the zone.
   - Access authorization can be set by zone.

2 After setting, click [Save] to complete the authorization setting.



- User access authorization applies to all indoor units of the zone in same manager.

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

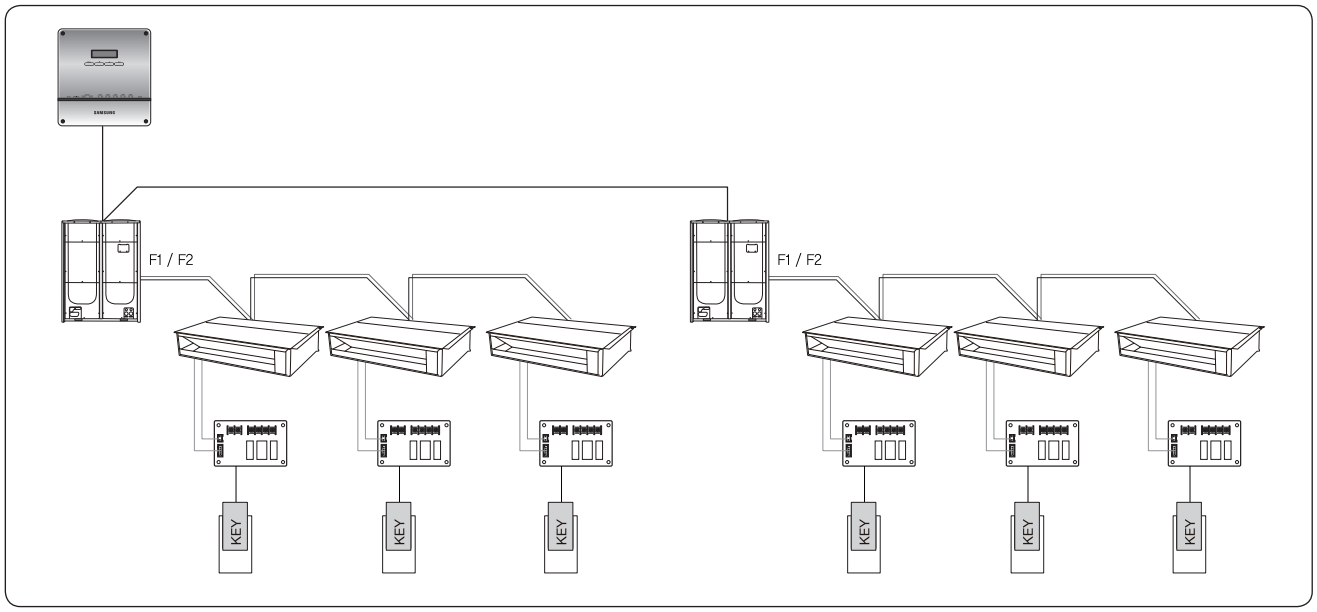
Control for unoccupied room

- It is the function to keep the room temperature when user goes out for a while.
- User can set the detail operation of [Unoccupied room control] using DMS2.5 or S-NET pro2.

Note

- Applicable indoor unit and controller
  Indoor unit: New communication applied DVM indoor unit. (Software version check is required)
  FCU KIT: MIM-F00N

Diagram



Requirement

- To use this function, external contact interface module (MIM-B14) should be installed to indoor unit.
- Installation option code of indoor unit [SEG14] should be set

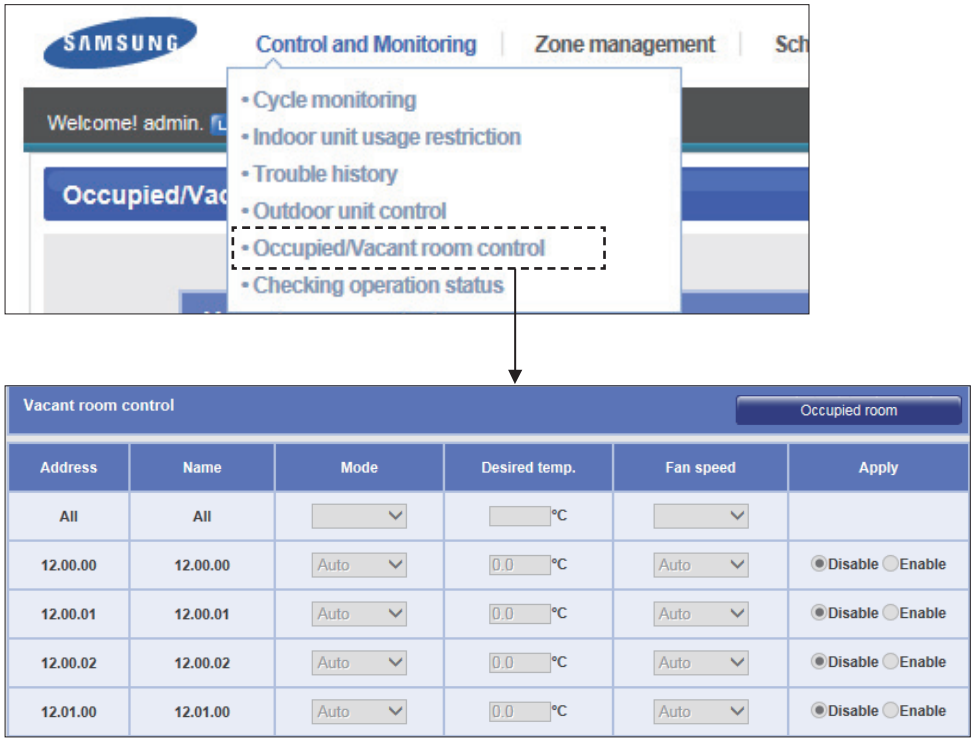
[Installation option code SEG14]

SEG14	Contact	Operation of [Unoccupied room mode]		
		Indoor unit	Use of R/C	Use of upper controller
1	Close	ON	O	O
	Open	Operates as [Unoccupied room mode]	O	O
2	Close	Stay OFF	O	O
	Open	Operates as [Unoccupied room mode]	X	X
3	Close	Operates as last status before [Contact = Open]	O	O
	Open	Operates as [Unoccupied room mode]	X	X

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Setting



- Control and Monitoring] > [Occupied/Vacant room control] menu:
  You can see indoor units which can support [Vacant room control]
- Set [Apply]
  - Enable: Indoor unit operates as [Vacant room control] when contact status is open.
  - Disable: Indoor unit stops when contact status is open.
- Set detail operation
  - Mode, Desired temperature, fan speed
  - Setting value is saved in indoor unit memory. (The setting value will be maintained in case of power failure or DMS2.5 removal)

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

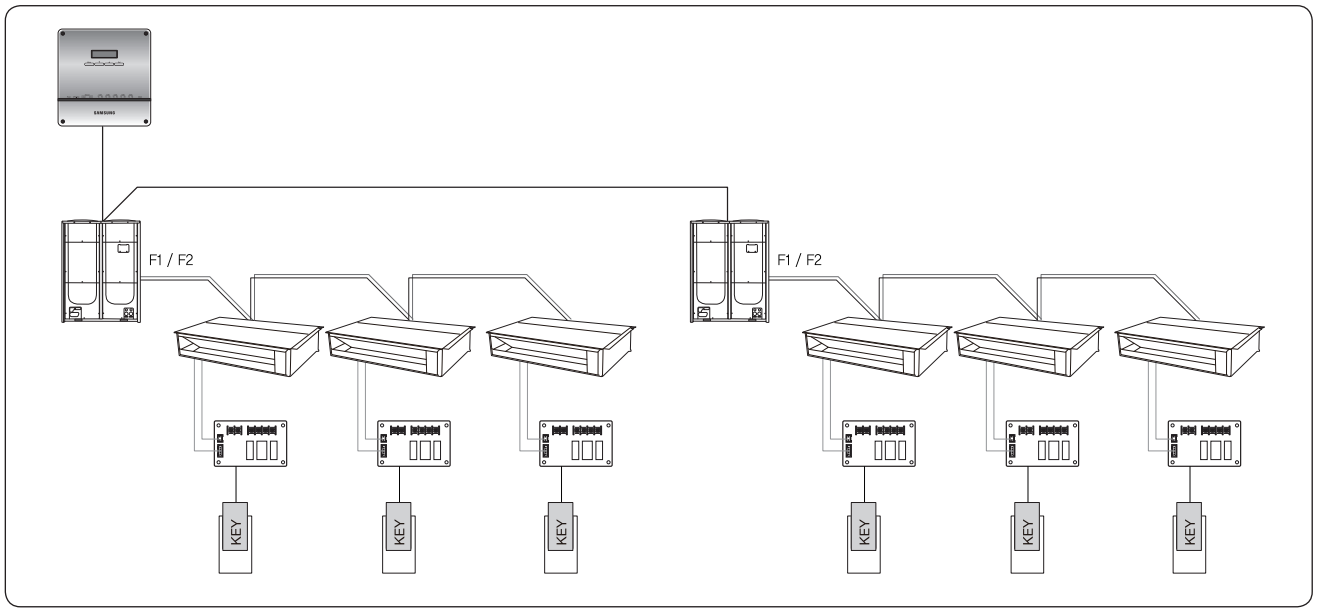
Pre-heating/Pre-cooing control for occupied room

- This is a function to detect a user entrance (via an external contact) and to automatically perform the pre-heating, pre-cooling.
- It applies when the contact state of MIM-B14 which is connected to the indoor unit is Close.
- Detailed pre-operation settings is set by DMS2.5 or S-NET Pro2.
- Occupied and unoccupied control can be used at the same time.

Note

- Applicable indoor unit and controller
  Indoor unit: New communication SINGLE indoor unit
  Controller: DMS 2.5, S-NET pro2

Diagram



()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Requirement

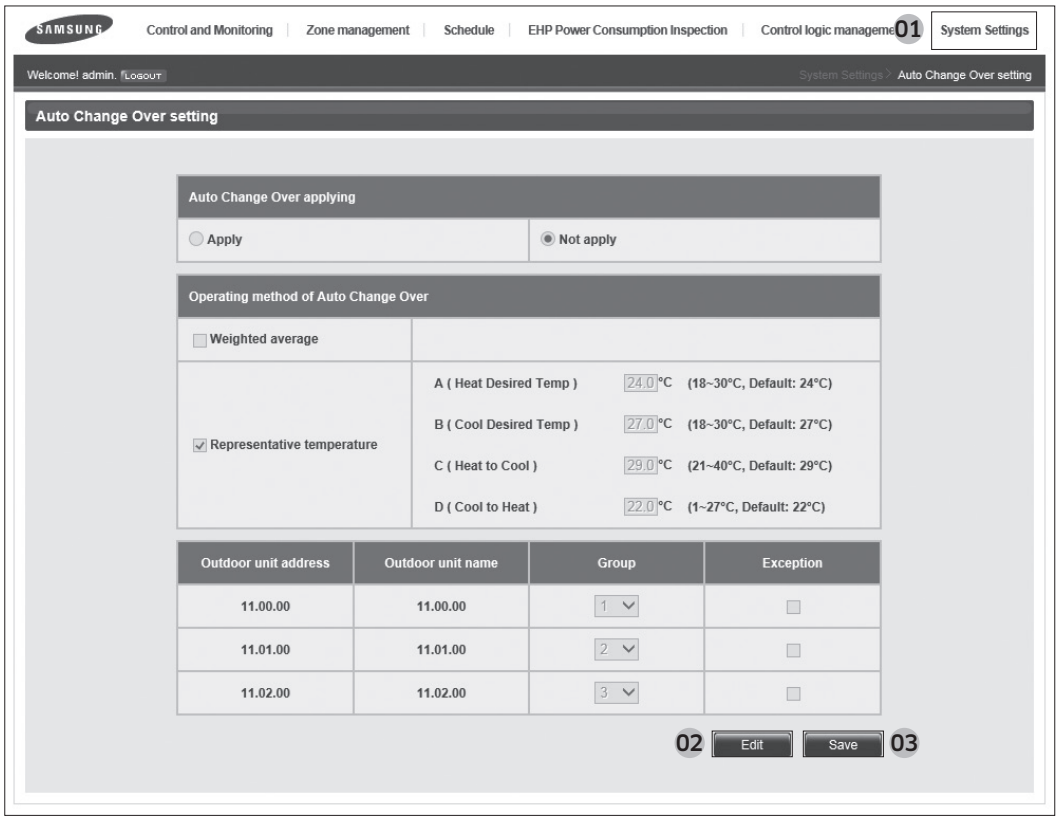
Case	Indoor unit	DMS2.5/ S-NET PRO2	Description	
	External contact control (Installation option SEG14)	Vacant room control	In open contact (=Vacant room)	Use of R/C in open contact
1	On/Off Control (1)	Enable	On as [setting of Vacant room control]	O
2		Disable	Off	O
3	Off only Control (2)	Enable	On as [setting of Vacant room control]	X
4		Disable	Off	X
5	Window Control (3)	Enable	On as [setting of Vacant room control]	X
6		Disable	Off	X

Case	Indoor unit	DMS2.5/ S-NET PRO2	Description	
	External contact control (Installation option SEG14)	Occupied room control	In close contact (=Occupied room)	Use of R/C in close contact
1	On/Off Control (1)	Enable	On as [setting of Occupied room control]	O
2		Disable	On as [last On operation mode]	O
3	Off only Control (2)	Enable	On as [setting of Occupied room control]	O
4		Disable	Off	O
5	Window Control (3)	Enable	Case1) If Indoor unit was Off at last open contact → Off Case2) If Indoor unit was On at last open contact → On as [setting of Occupied room control]	O
6		Disable	On as [last operation mode]	O

()* is used in Turkey.

DMS2.5 > MIM-D01AN (MIM-D01ARN)*

Setting Auto Change Over



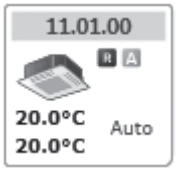
1 Click [System Settings] → [Auto Change Over setting] when DMS2.5 web page menu screen appears.

- Using the 'Auto Change Over' function, DMS2.5 can control indoor units to start auto cooling or auto heating.
- When using auto cooling or heating, DMS2.5 operates the Fan → Cool or Heat → Auto modes in order. For ERV PLUS, it operates the Fan → Cool or Heat modes in order.

2 Click [Edit] to configure the Auto Chang Over settings.

A [Apply] / [Not apply]

- When using the Auto Change Over function, 'A' appears in the [Control and Monitoring] screen on the indoor unit, and the indoor unit cannot control its operation mode separately.



B [Weighted average]: Configure the settings so that indoor units automatically switch between cooling and heating modes according to the set temperature, current temperature, and cooling/heating capacity of the indoor units that are turned on.
Let's assume, for example, indoor units of the same capacity have been installed. If a larger number of the units have desired temperature lower than the current temperature, all of the units automatically switch to cooling mode. If a larger number of the units have the set temperature higher than the current number, all of the units automatically switch to heating mode.

()* is used in Turkey.

C [Representative temperature]: Sets to run auto cooling or heating operation, according to the average temperature of the turned-on indoor units.

- DMS 2.5 sets the indoor units to the auto cooling mode and keeps the temperature according to 'B (Heat Desired Temp)' when the average temperature of the units currently running is higher than 'C (Heat to Cool)'. DMS 2.5 also sets the indoor units to the auto heating mode and keeps the temperature according to 'A (Cool Desired Temp)' when the average temperature of the units currently running is lower than 'D (Cool to Heat)'.

D Outdoor unit setting

- Only Heat Pump outdoor units that support new communication mode appear in the list. However, not listed in the list are the Heat Pump outdoor units that are connected to the Fresh Duct, Hydro Unit, Hydro Unit HT, Single EHS, DVM CHILLER, or cooling only indoor unit, as these units are not applicable for Auto Change Over.
- The following outdoor units are not displayed in the list: the outdoor units designed solely for cooling and the outdoor units connected to the heating/cooling change-over switch if the switch is set to the cooling only mode or to the heating only mode.
- The conventional indoor and outdoor units connected to ERV interface module, FCU interface module, Heat Recovery, and compatible interface module—those units do not appear in the list, as these units are not applicable for Auto Change Over.
- Auto Change Over works for each group.
- All indoor units in a single group become the targets for weighted average or representative temperature, and are controlled to equally run auto cooling or auto heating.
- If you select [Exception], the outdoor unit cannot use the Auto Change Over function despite being grouped, and indoor units connected to the outdoor unit are excluded from the targets of weighted average or representative temperature.
- If the outdoor unit is set to cooling or heating only mode, the Auto Change Over function is not available.

3 Click [Save] after finishing the setup.

Note

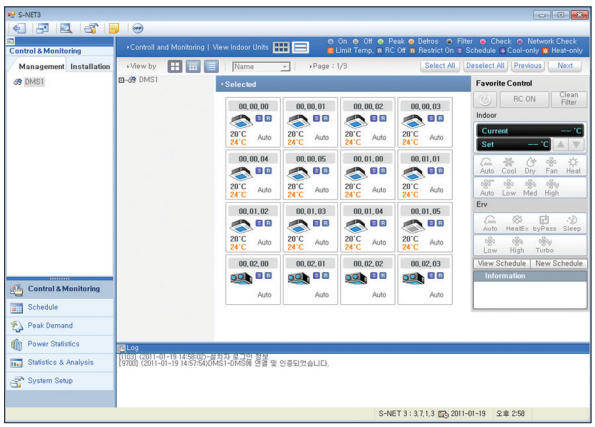
- When the DMS2.5 is installed in the S-Net3, Touch Centralized controller, Wi-Fi Kit product, or wired/wireless remote controllers simultaneously, the indoor unit with the Auto Change Over function cannot control operation modes through S-Net3, Touch Centralized controller, Wi-Fi Kit product, or the wired/wireless remote controller.

()* is used in Turkey.

S-NET3

MST-P3P

Features



PC program designed to manage system air conditioners in a large site.

- Max. 16 DMS2.5 connection
- Max. 4,096 indoor unit controlling and monitoring
- Integrated management of indoor units, ventilators and AHU(Excluding DVM CHILLER, FCU KIT)
- Manages operation and error history
- Check indoor/outdoor unit cycle data
- Integrated management of peak control in single program

PC specifications

Item	Model	Details
PC	CPU	Pentium 4 or above
	Memory	More than 512MB
	HDD	More than 1Gbyte space available
	Network	10/100M
OS	-	Windows NT, Windows 2000, Windows XP, Windows VISTA, Windows 7

Compatible product

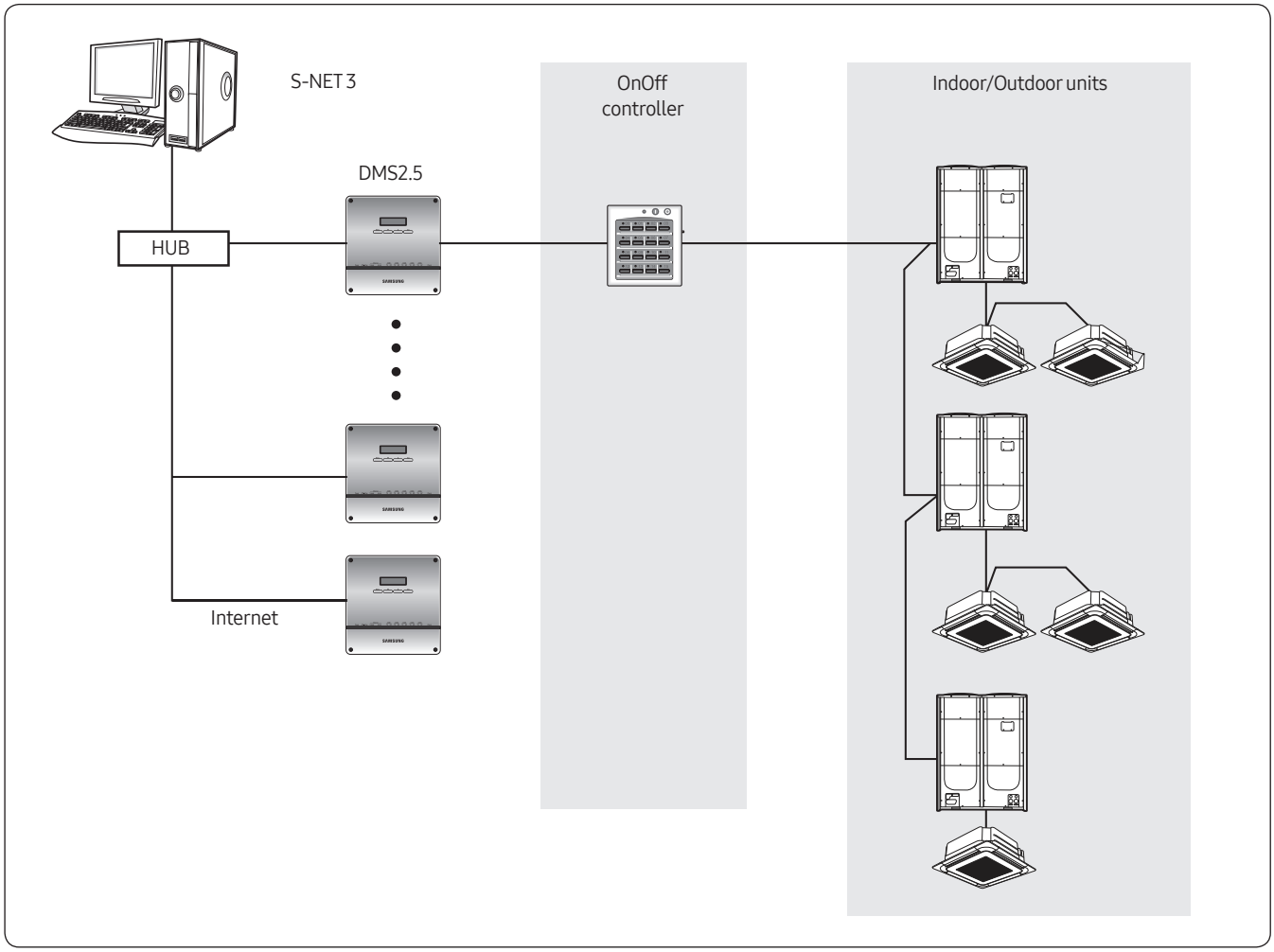
DMS	DMS(MIM-D00AN), DMS(MIM-D01AN)

Note

Model	MST-P3P
Number of connection	Max. 16 DMSs

S-NET3 › MST-P3P

System connection



Function

S-NET3 function description

Control & Monitoring	View the management structure	Control and monitor the indoor units (max. 4,096 units).
	View the installation structure	Check and refer the state of various devices such as indoor/outdoor units, OnOff controller, and I/M.
	Indoor unit/ERV control	Set the operation mode, temperature, fan speed, and fan Control & Monitoring direction of indoor unit/ERV.
	Indoor unit/ERV monitoring	Monitor the status of indoor unit/ERV.
	View outdoor unit	Check the outdoor unit's cycle data and the cycle data of the linked indoor units.
	View DMS2.5	Check the status data of the control unit linked to DMS2.5.
Schedule	Create new schedule	Set new schedule.
	View schedule	Check the schedule of the selected indoor unit.
	Start/Stop schedule	Start/Stop schedule application.
	Store/Call schedule	Store/Call a prepared schedule.
	View daily schedule	Confirm each schedule by date.
	Set common exception date	Set the date which schedule operation is not applied on.
Usage time and power	Usage time and power	Check the usage time and power for total, group, and individual indoor units.
	Power consumption report	For preparing the report on the power consumption by each indoor unit for the period set.
	Power distribution management group edition	Edit an indoor unit's power management structure
	Set the electricity rate section	Set up to 3 sections for electricity billing management.
Statistics and analysis	Indoor unit status	Check the status of indoor unit operation/temperature setting per period.
	Usage time and power	Check the usage time and power for total, group, and individual indoor units.
	Indoor unit usage	The usage ratio of all indoor units for a specific period.
System management	Set environment	Set the environment related to S-NET3 (password, language, temperature unit).
	Set DMS2.5	Set the DMS2.5 to connect with S-NET3.
	Refer event log	Refer the warning, error, data of indoor units.
	Renew installed device information	Modify S-NET3 data if installation data has been changed.
	DMS2.5 backup/restore	Backup the data of DMS2.5 connected to S-NET3.
	S-NET3 backup/restore	Backup the data of S-NET3.

User functions

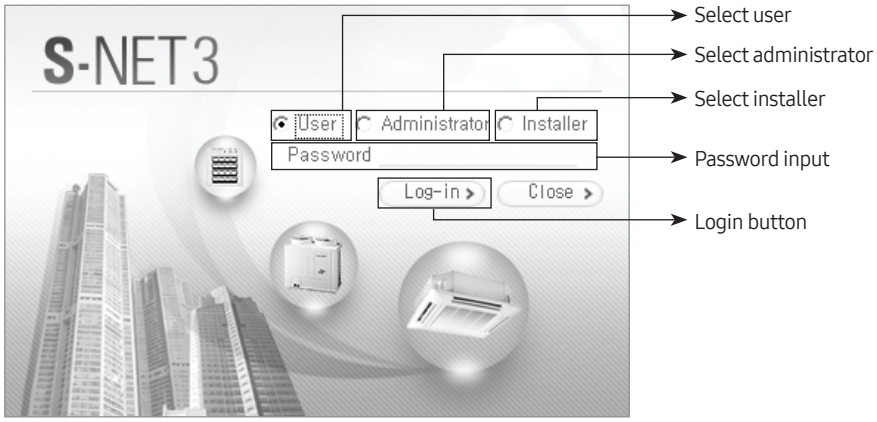
Manage a range of functions accessible to different types of users such as regular user, administrator and installer.

	User	Administrator	Installer
View the total indoor unit	O	O	O
Structure editing	X	O	O
The list of installed devices	X	O	O
Whole indoor unit stop	O	O	O
Indoor unit/ERV control/Monitoring	O	O	O
View the management structure	O	O	O
View the installation structure	X	O	O
View outdoor units, DMS2.5	X	O	O
Schedule	X	O	O
Indoor unit operation setting	X	O	O
Usage time and power	X	O	O
Power consumption report	X	O	O
Power distribution management group edit	X	O	O
Power distribution section setting	X	O	O
Statistics/Analysis	X	O	O
S-NET3 setting	X	O	O
DMS2.5 setting	X	O	O
Event log reference	X	O	O
Tracking	X	O	O
DMS2.5 restoration	X	O	O
DMS2.5 backup	X	O	O
S-NET3 restoration/backup	X	O	O

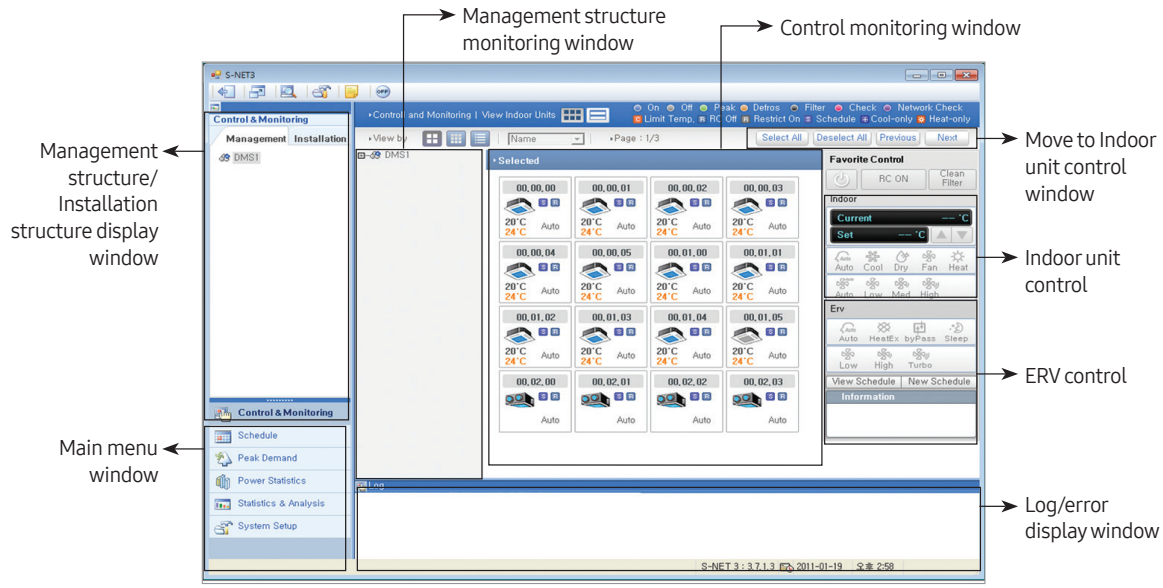
Detail function description

S-NET3 display

Log-in



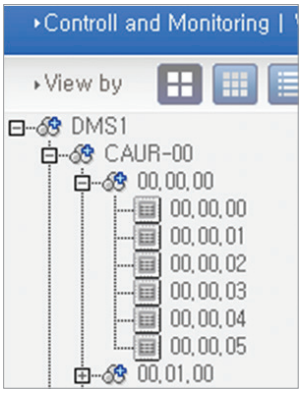
Control and monitoring



Installation structure window

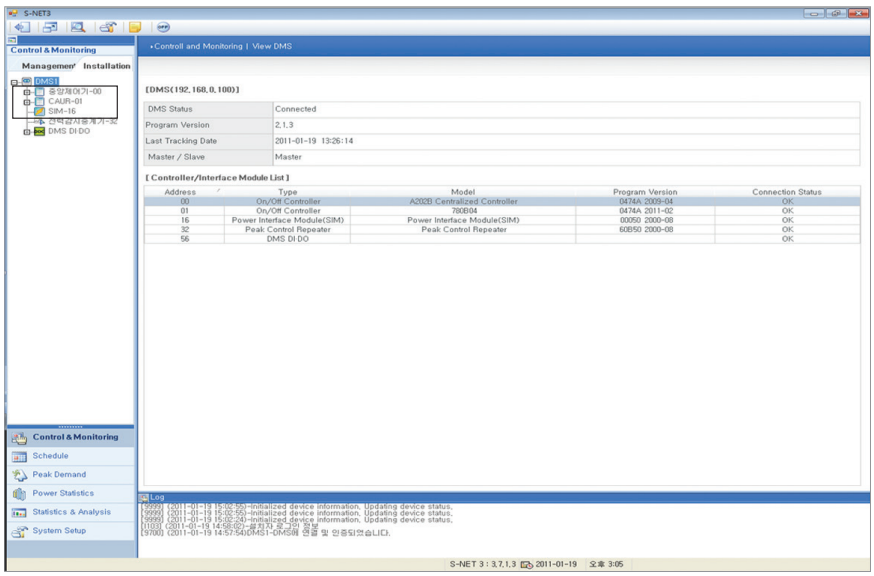
Select the installation structure tab then select DMS2.5 connected to S-NET3; it is possible to see the program version, status of the selected DMS2.5, the program version and communication status of OnOff controller.
If indoor or outdoor unit is selected at the installation structure, it is possible to check the hardware information of the selected device.

Selecting management structure



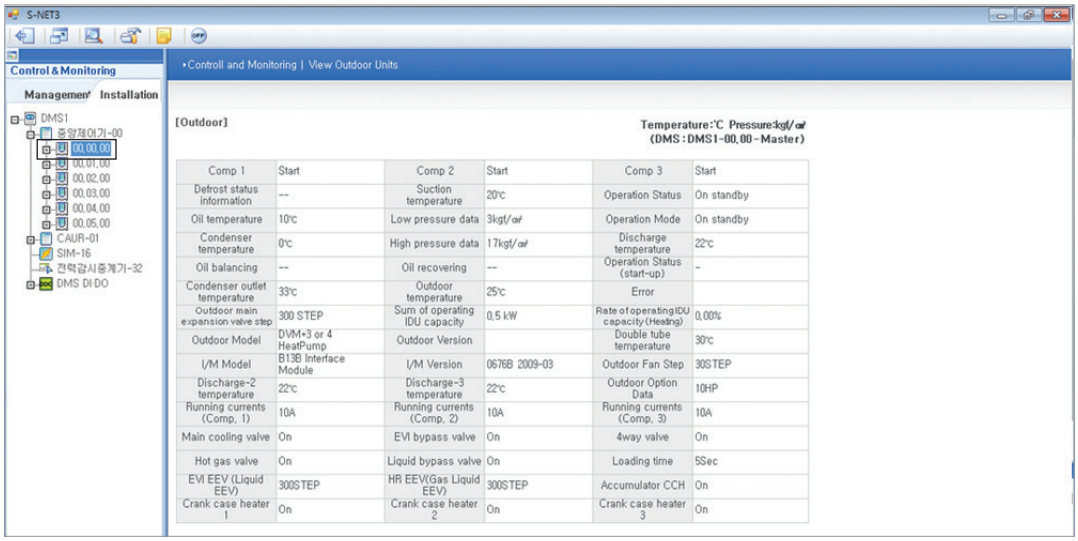
Selecting installation structure

A When DMS2.5 & OnOff controller are selected.



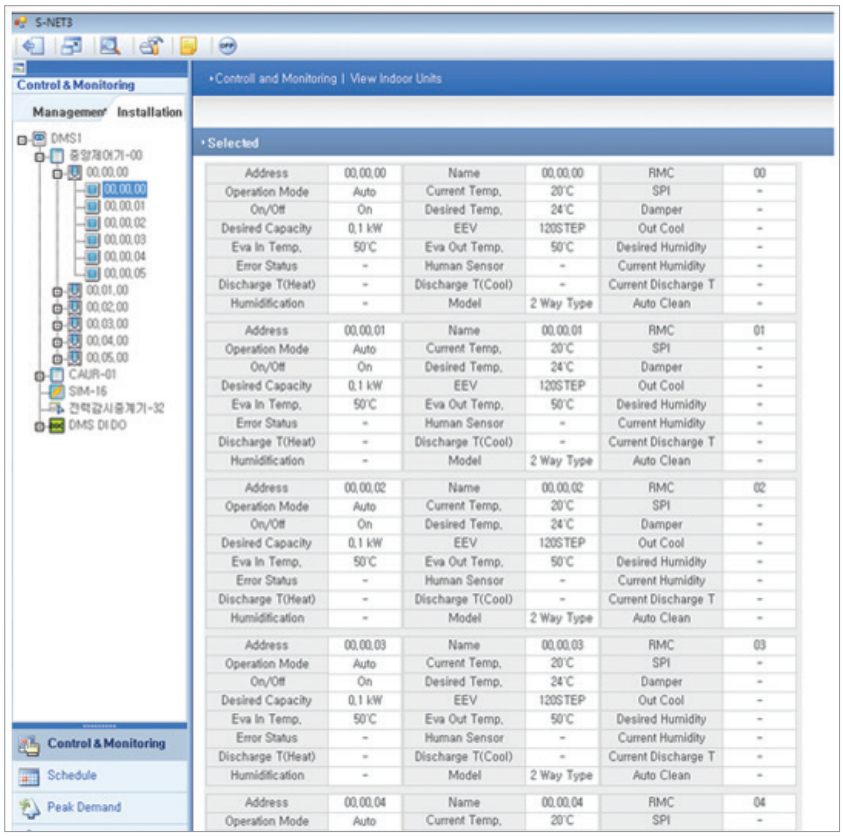
- DMS2.5 status, DMS2.5 program version, last tracking date and Master/Slave setting state.
- Displays model name, software version, communication state of centralized controller, PIM.

B When outdoor unit is selected



- Outdoor unit cycle data, outdoor unit model, interface module model and interface module program version is displayed.

C When indoor unit is selected

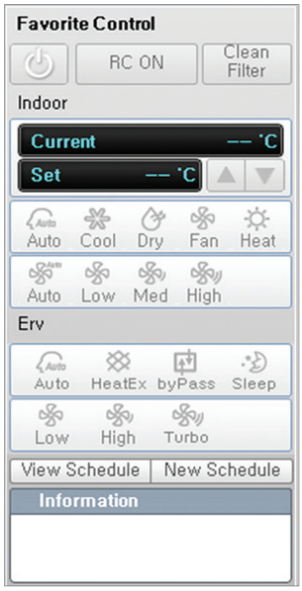


- Indoor unit operation status, indoor unit cycle data and indoor unit model code is displayed.

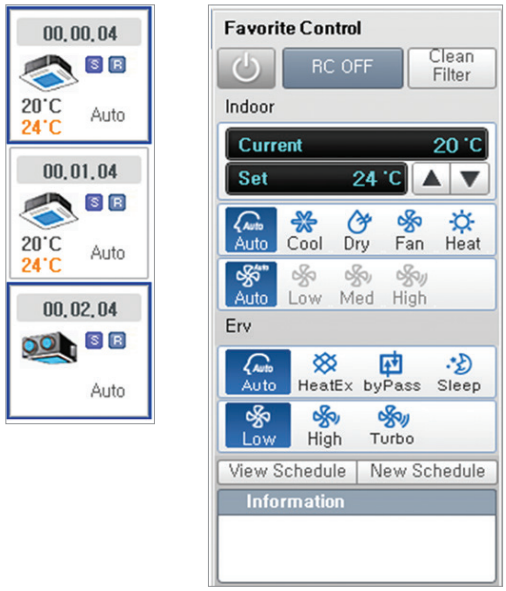
Control

- Control indoor unit/ERV through the control window that appears on the screen.
- Control total indoors, the operation mode of indoor units, multiple selection, temperature, fan speed, and fan direction.
- Set Upper/Lower temperature limit so that temperature cannot be set outside of the limited temperature range.
- Enable/disable remote control usage.
- Check the schedule of the selected indoor unit.

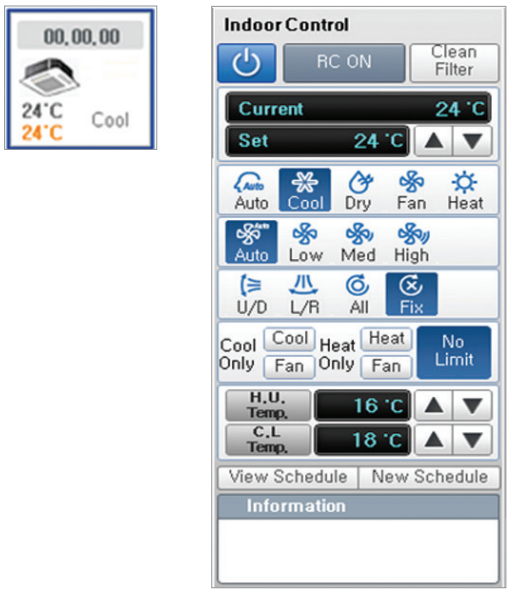
A Deselect device



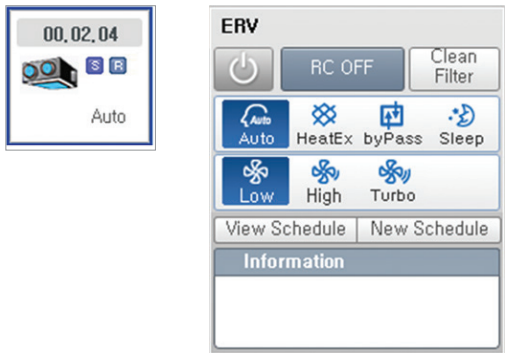
B Selecting indoor unit and ERV together



C Selecting indoor unit



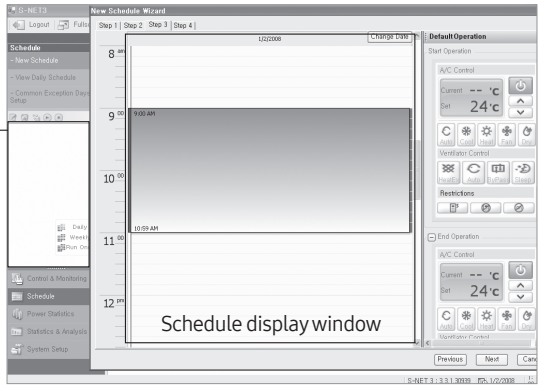
D Selecting ERV



Schedule control

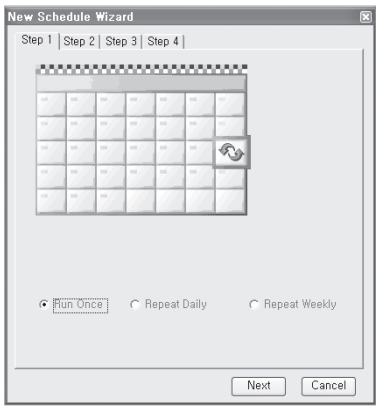
A Schedule setting

- Able to set a schedule to control indoor units and ERVs. (creating, modifying, deleting).
- Able to set weekly, daily, one day schedule.
- Able to control the operation mode, temperature setting, fan speed, fan direction during the schedule control.

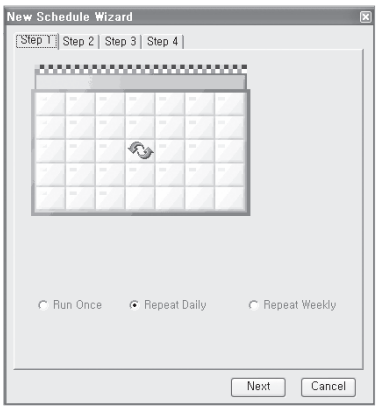


- Easy schedule control for user with the wizard method (step-by-step setting).

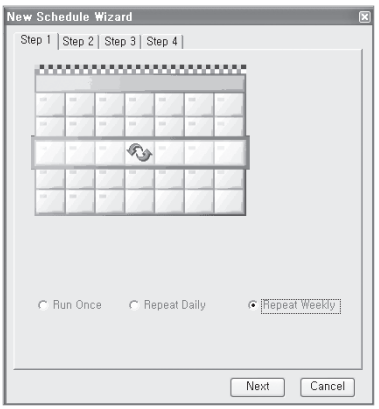
1 The 1st step (select a schedule mode)



One day only



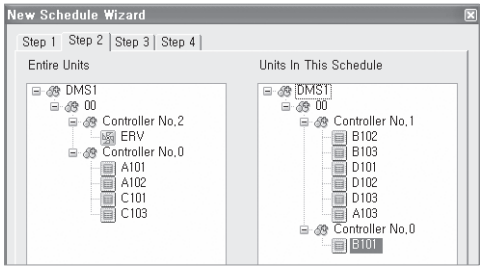
Repeat daily



Repeat weekly

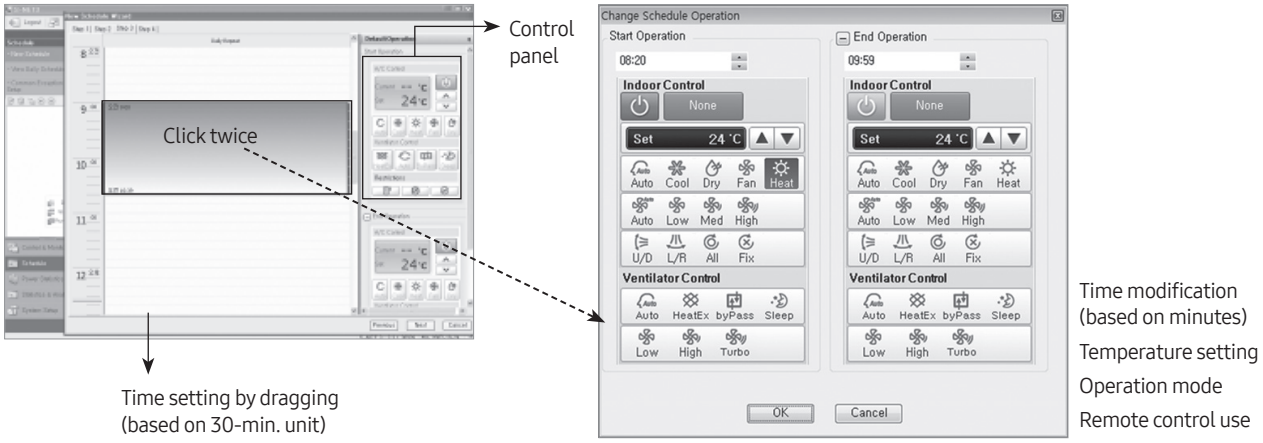
2 2nd step (select the indoor units to apply a schedule to)

- Display the total indoor units in S-NET3.
- Able to select individual indoor units, OnOff controller, DMS2.5.



3 The 3rd step (schedule operation setting)

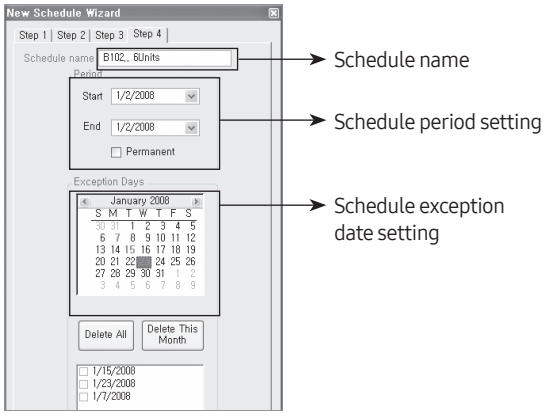
- Set up time by dragging on the time table.
- Set the schedule with the control panel on the right. (Operation mode. temperature setting, fan speed, fan direction and remote control use).
- Click the schedule time setup window to display a schedule modification window (able to modify a schedule time, operation mode and temperature setting).



Schedule modification panel

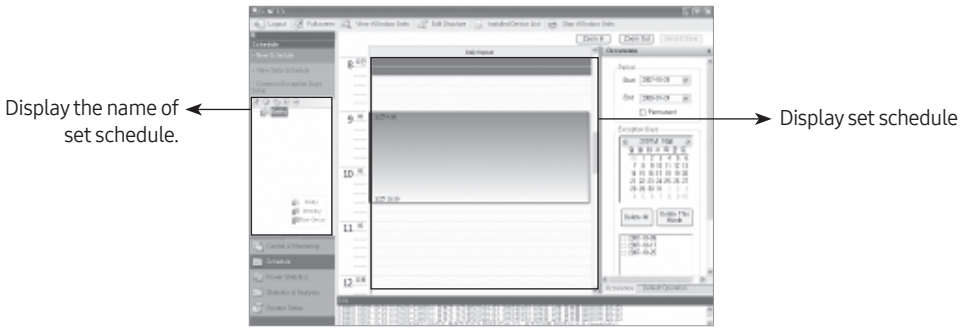
4 The 4th step (Schedule period and exception date setting)

- Click the date on the calendar to set the date (once selected, the designated date is displayed in red).



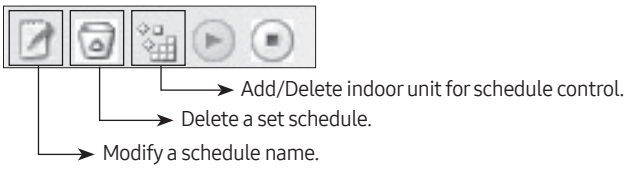
5 Schedule setting completion

- Displays a schedule list to be automatically applied to the schedule



B Schedule control

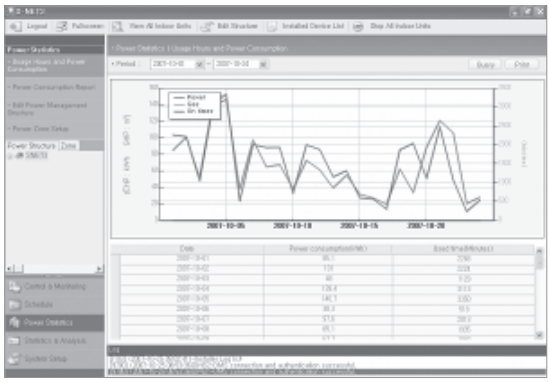
- Click the set schedule display window twice to display the modification panel. Then it is possible to modify various functions such as schedule time, operation mode and temperature setting.
- Able to carry out various functions such as a schedule name change, schedule delete, indoor unit addition and deletion with the icons on the left menu window.



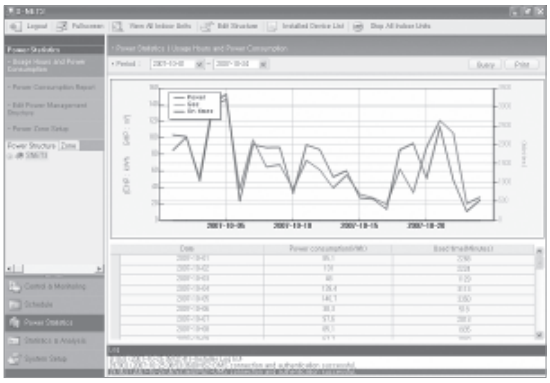
Usage time and power consumption

A Usage time and power

- Able to search for the power consumption and usage time by different conditions including the total indoor units applied to S-NET3, OnOff controller, individual indoor unit. OnOff controller, individual indoor unit.



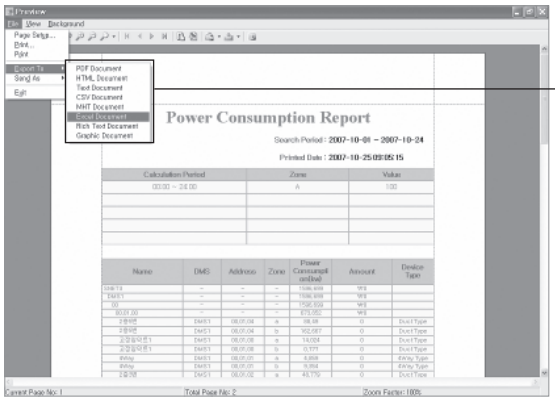
Total indoor unit usage reference



Individual indoor unit usage reference

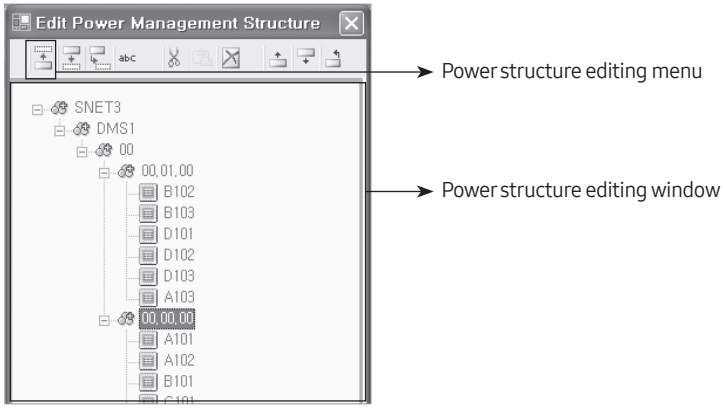
B Power consumption report

- Able to print out the amount of power consumed for a specific period of time in the form of report.
- The applicable formats include PDF, TXT, HTML, CSV, MHT, EXCEL, graphic documents.



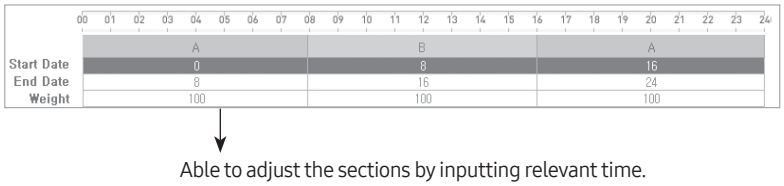
C Power management structure editing

- Just as the structural editing at the monitoring, power management can be restructured to ensure greater convenience for administrators.
- Once the power management structure is edited, power consumption report and usage can be referred in the edited formats.



D Power section setting

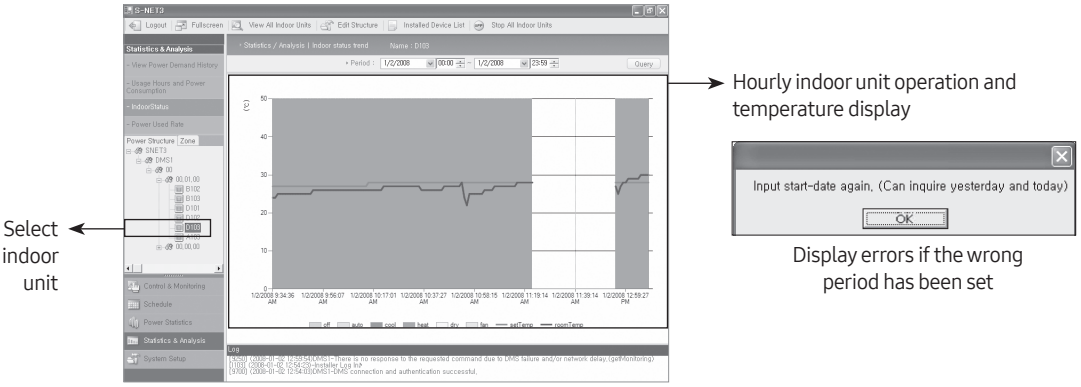
- It can be referred and divided into max. 3 sections for power consumption reference.
- It is possible to refer or prepare reports for usage time and power consumption by dividing section by each hour.



Statistics and analysis

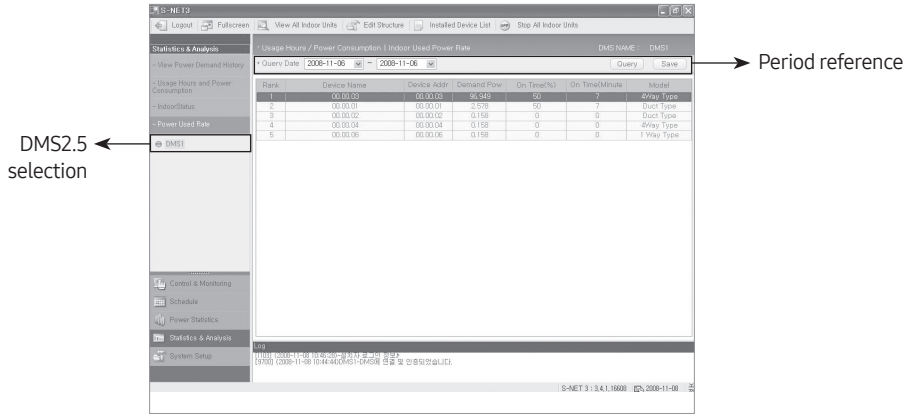
A Indoor unit status

- Able to see the operation status of selected indoor units and room temperature for the present and the past.
- Able to refer to the operation status for the last two days. If the reference day is out of range, an error message window will appear.



B Power consumption of indoor units

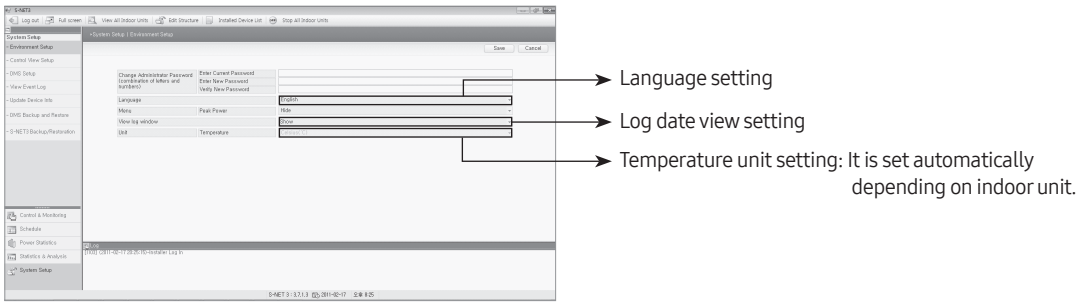
- Displays the use time and power consumption ratios for the indoor units connected to each DMS2.5.



System management

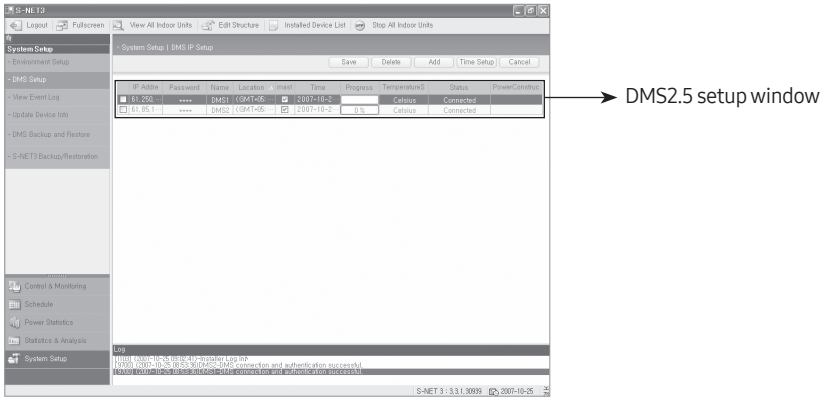
A Environment setting

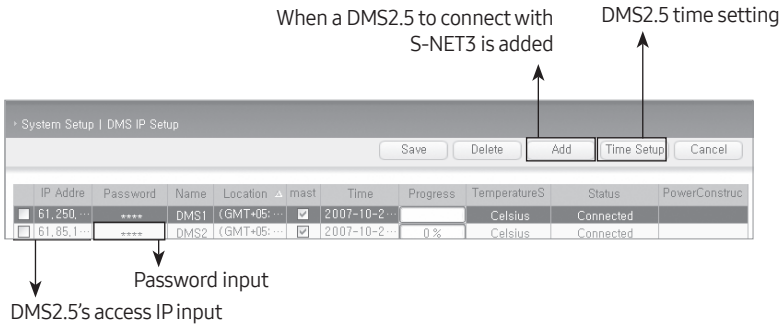
- Set the environment of S-NET3.
- Set administrator password, language, temperature unit, default value for indoor unit, etc.
- Determine if peak power will be displayed or not in the menu setting (Korean market only).



B DMS2.5 setting

- Set the DMS2.5 to connect with S-NET3.
- Click Save after inputting IP and passwords (1) and it will attempt to make communication with S-NET3 and DMS2.5 then display normal when communication is made.



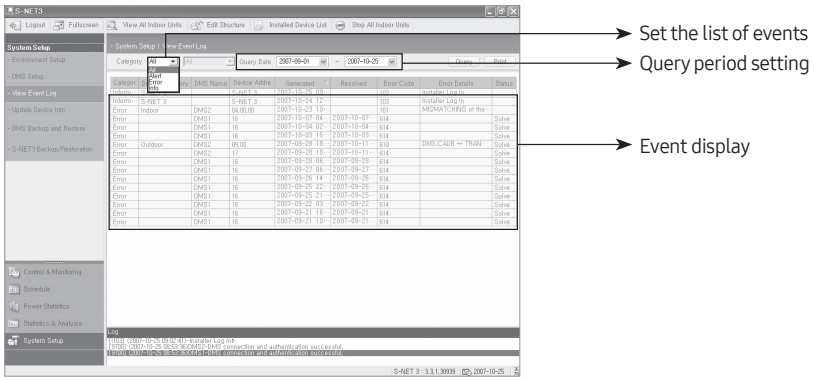


Note

- DMS2.5 has two passwords. One is a password needed to connect to a DMS2.5 web client (set at the user management), the other is necessary to make access to S-NET3 (set at the system environment).
- When the wrong password for S-NET3 is input, a message indicating DMS2.5 – account recognition failure appears.

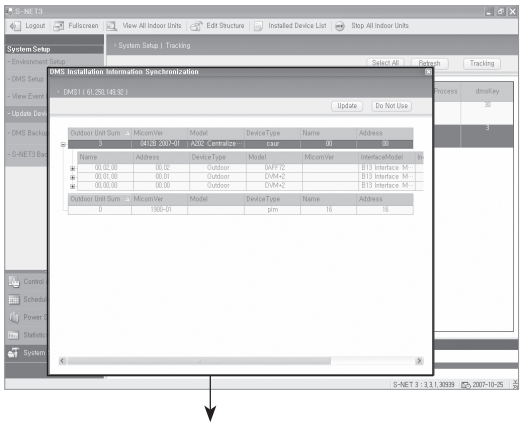
C View event log

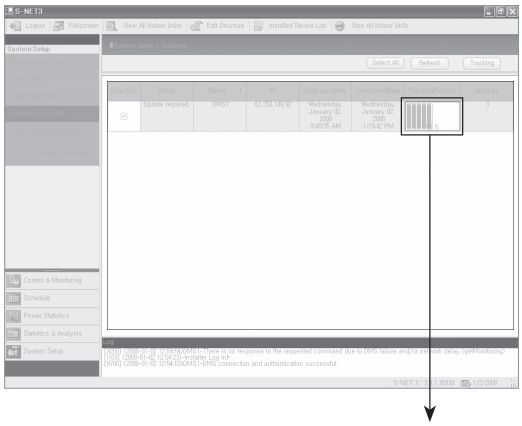
- Able to check various information such as indoor/outdoor units connected to S-NET3, control device error/warning, information details by date.



D Information update of the installed device

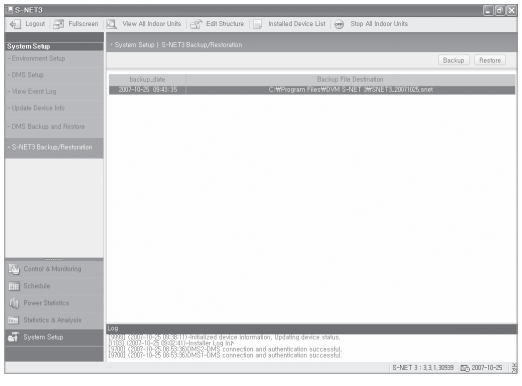
- Able to carry out information update or tracking for the installed device.
- Tracking involves receiving data from DMS2.5 after tracking it so as to renew data, whereas data renewal involves correcting data from DMS2.5 after receiving data without DMS2.5 tracking.


List of control devices connected to DMS2.5


Tracking is under way

E S-NET3 backup and restoration

- Able to backup and restore data of S-NET3.
- Backup involves in backing up all data in S-NET3. Thus, if backup data is restored in a PC where S-NET3 is installed, it will produce the same environment that is previously used.



S-NET3 log information

Log	Contents
E9000	Connection impossible
E9001	Connection denied
E9002	Connection finished
E9010	WINK denied
E9011	DMS2.5 password authentication failure
E9012	Serial exchange failure
E9100	General error on instruction transmission
E9150	Attempt to transmit to a DMS2.5 not in connection
E9151	Attempt to transmit to a DMS2.5 not registered
E9200	General error on response acceptance
E9250	There is no response to the requested command due to DMS2.5 failure and/or network delay
E9300	XML generating
E9400	XML parsing
E9401	Installation information on S-NET3 and DMS2.5 does not match, check tracking information
E9999	Initialized device information updating device status
I101	Common user log in
I102	Administrator user log in
I103	Installer log in
I104	Log in
I105	Log out
I201	Tracking
I202	Request to tracking
I301	Request to schedule change
I801	Insert DMS2.5
I802	Delete DMS2.5
I803	DMS2.5 time setting
I9700	DMS2.5 connection and authorization successful
I9701	Reconnection
I9801	Emergency stop

Chapter
04

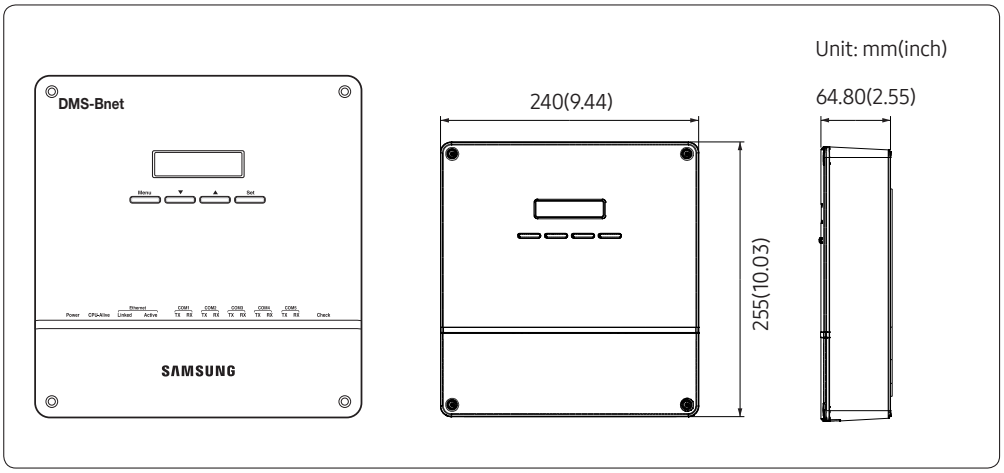
Gateway

()* is used in Turkey.

BACnet Gateway

MIM-B17BN (MIM-B17BRN)*

Features



- For BACnet protocol system Support DMS2.5 control function at the same time.

Product specification

Power supply	Source	DC Adaptor
	Input	100~240VAC (±10%), 50/60Hz
	Output	12V 3A
Operating temperature range		-10°C ~ 50°C (14°F~122°F)
Operating humidity range		10%RH ~ 90%RH
Communication connection		• Lower layer: RS485 x 5 • Upper layer: Ethernet 100Base-T x 1
External connection port	Digital Output	8
	Digital Input	10
Maximum length of connection	RS485	1000m (3280ft)
	Digital Output	100m (328ft)
	Digital Input	100m (328ft)
	Ethernet	100m (328ft): When there is no repeater
Max. connectable number of device	Control layer	

Device	Numbers per each channel	Total number for 5 channels
Indoor units (including ERV, MCU, FCU KIT)	128	256
Outdoor unit (including MIM-N01, MIM-N10, MIM-F10N, DVM CHILLER unit)	16	80
OnOff controller	Total 15	Total 75
Touch centralized controller		
PIM interface module (MIM-B16N)	8	8
Wi-Fi kit (MIM-H03N)	1	5

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

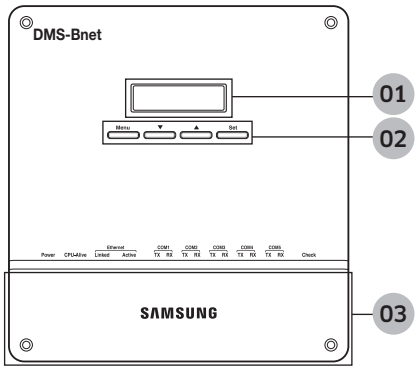
Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	PIM interface module (MIM-B16N)
	Wi-Fi kit (MIM-H03N)

- Conventional communication outdoor unit requires compatible interface module (MIM-N01) to establish connection
- MIM-B13D, MIM-B13E, MIM-B04A Interface modules cannot be connected.
- To connect ERV, MIM-N10 is required.
- To connect FCU KIT, MIM-F10N is required.
- Conventional PIM must connect to CH4(COM5) of DMS2.5.

Description of parts

Front



No.	Item	Function
01	LCD display	Displays current time or menu.
02	Menu button	Access the setting menu.
	▼/▲ button	Select function or setting item in the setting menu.
	Set button	Enter or check setting item in the setting menu.
03	Bottom cover	Unscrew 2 screws on the bottom to remove the cover and check the cable connections.

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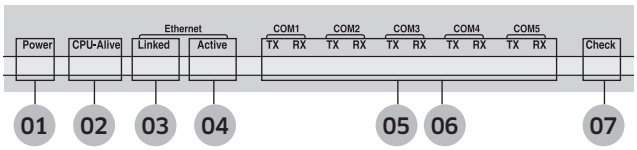
LED indicator



No.	Item	Name	Status
01	Power	Power indicator	Turns blue when the power is supplied
02	CPU Alive	CPU operation indicator	Blinks in orange with 1 second intervals during normal operation
03	Ethernet–Linked	Internet connection indicator	Turns green during normal connection
04	Ethernet–Active	Internet data transmission/reception indicator	Blinks in orange during normal transmission/reception
05	COM1~5 – TX	Channel 1~5 OnOff controller/ Interface module Data transmission indicator	Blinks in green during normal transmission
06	COM1~5 – RX	Channel 1~5 OnOff controller/ interface module Data reception indicator	Blinks in green during normal reception
07	Check	Indoor/Outdoor unit Communication status indicator	Turns green when communication error occurs

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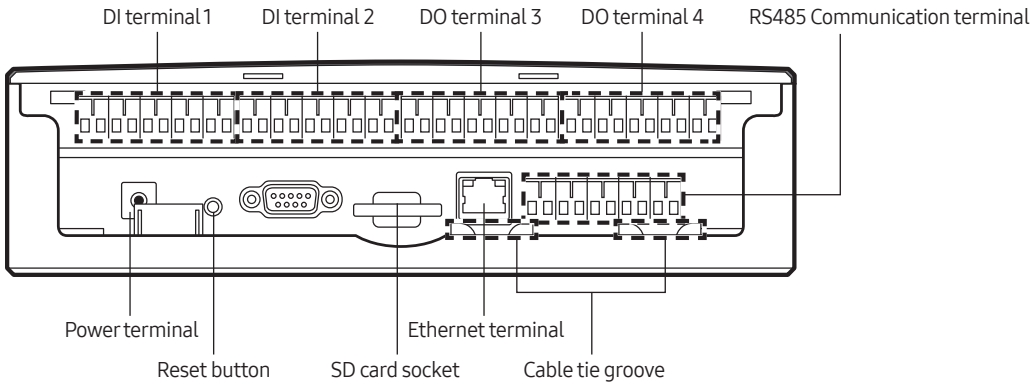
Bottom



Name	Description
DI terminal 1	Digital Input connection terminal, Channel 1~Channel 5
DI terminal 2	Digital Input connection terminal, Channel6~Channel10
DO terminal 3	Digital Output connection terminal, Channel 1~Channel 5
DO terminal 4	Digital Output connection terminal, Channel 6~Channel 8
Reset button	Reset BACnet Gateway
SD card socket	Sub memory (for program update and set information saving) socket
RS485 communication terminal	RS485 port for communication with OnOff controller/interface module
Ethernet Terminal	Connect LAN cable
Cable tie groove	Groove for arranging cables

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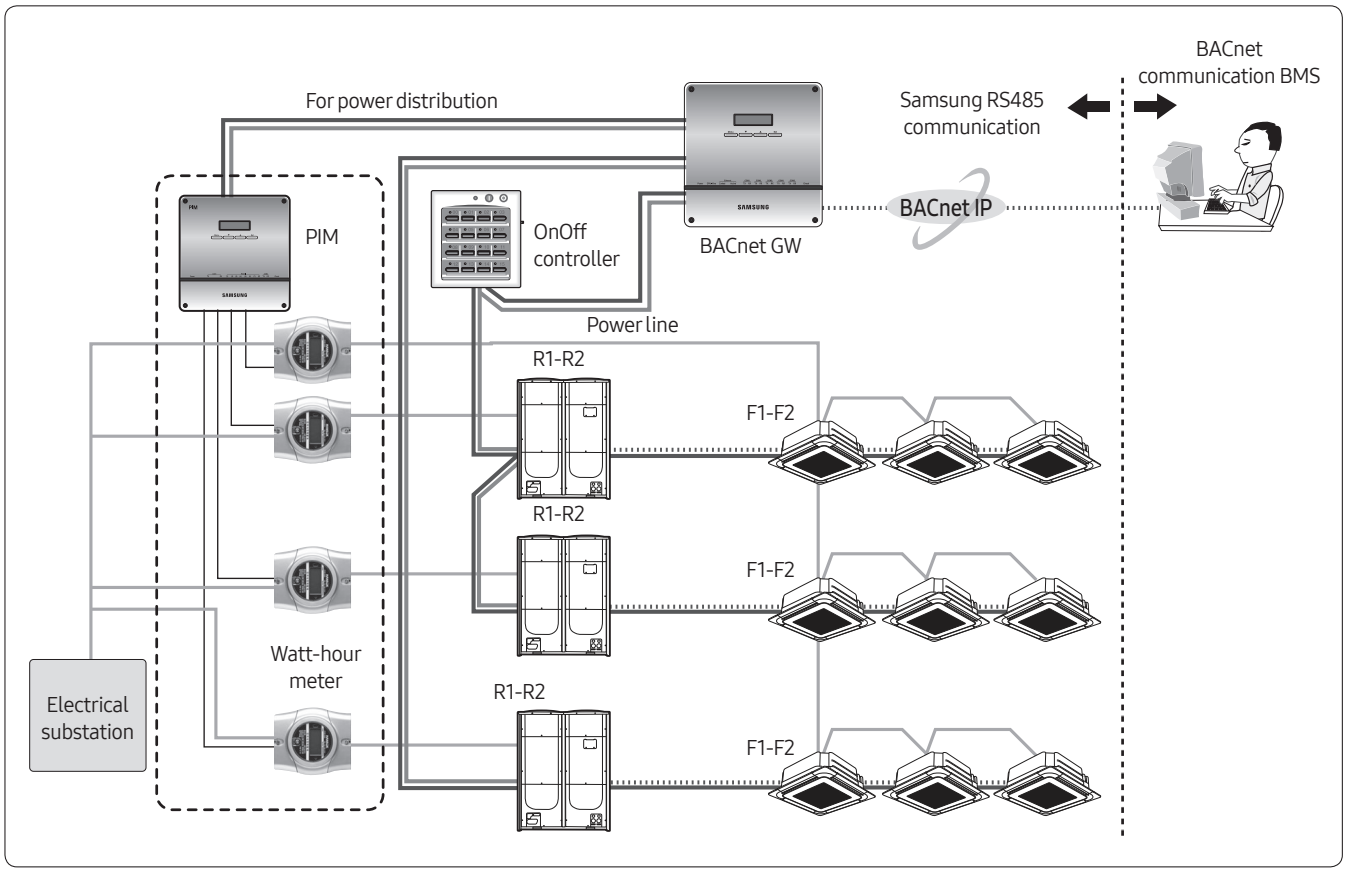
Connection diagram

MIM-B16N(PIM) can be connected with outdoor units or controllers to same channel of DMS2.5.



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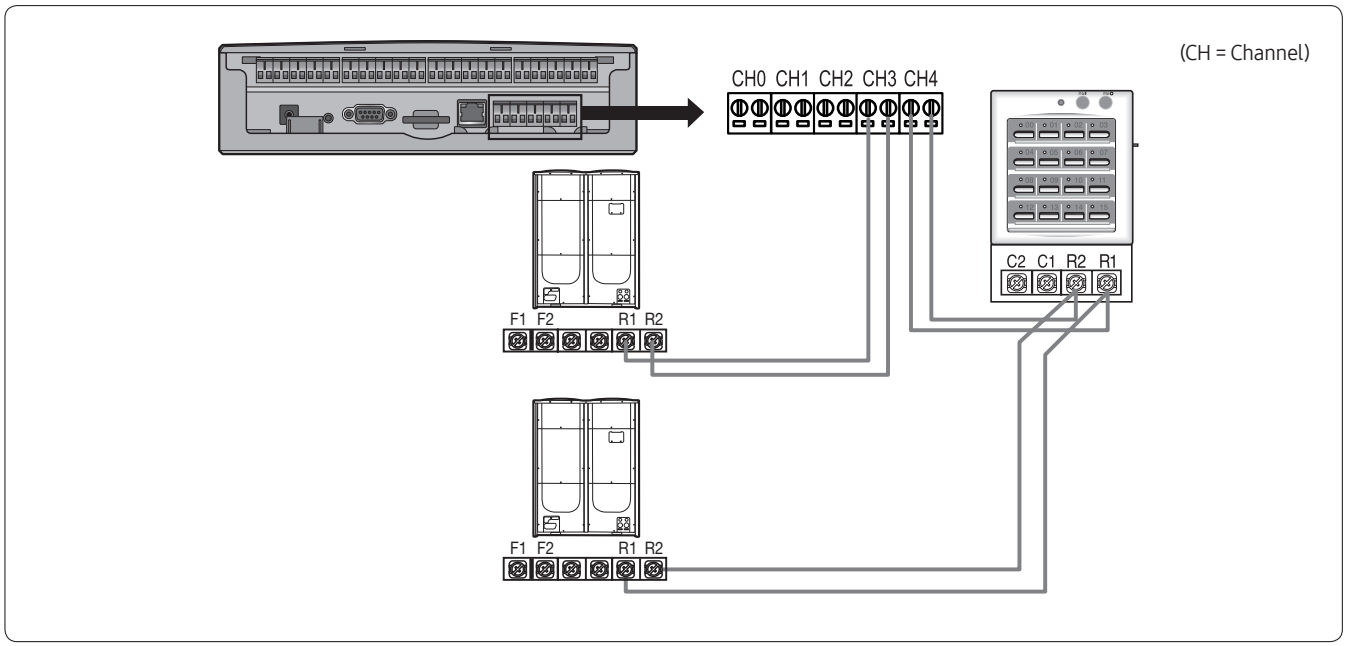
Wiring



- Connecting outdoor unit directly
  - Maximum 16 outdoor units can be connected to each channel
  - Total 80 outdoor units can be connected
- Connecting OnOff controller/Touch centralized controller
  - Maximum 15 OnOff controller/Touch centralized controller can be connected to each channel

Note

- BACnet GW can connect outdoor unit and OnOff controller/Touch centralized controller at the same time.
- Outdoor unit and OnOff controller/Touch centralized controller can be connected to 1 communication channel at the same time.

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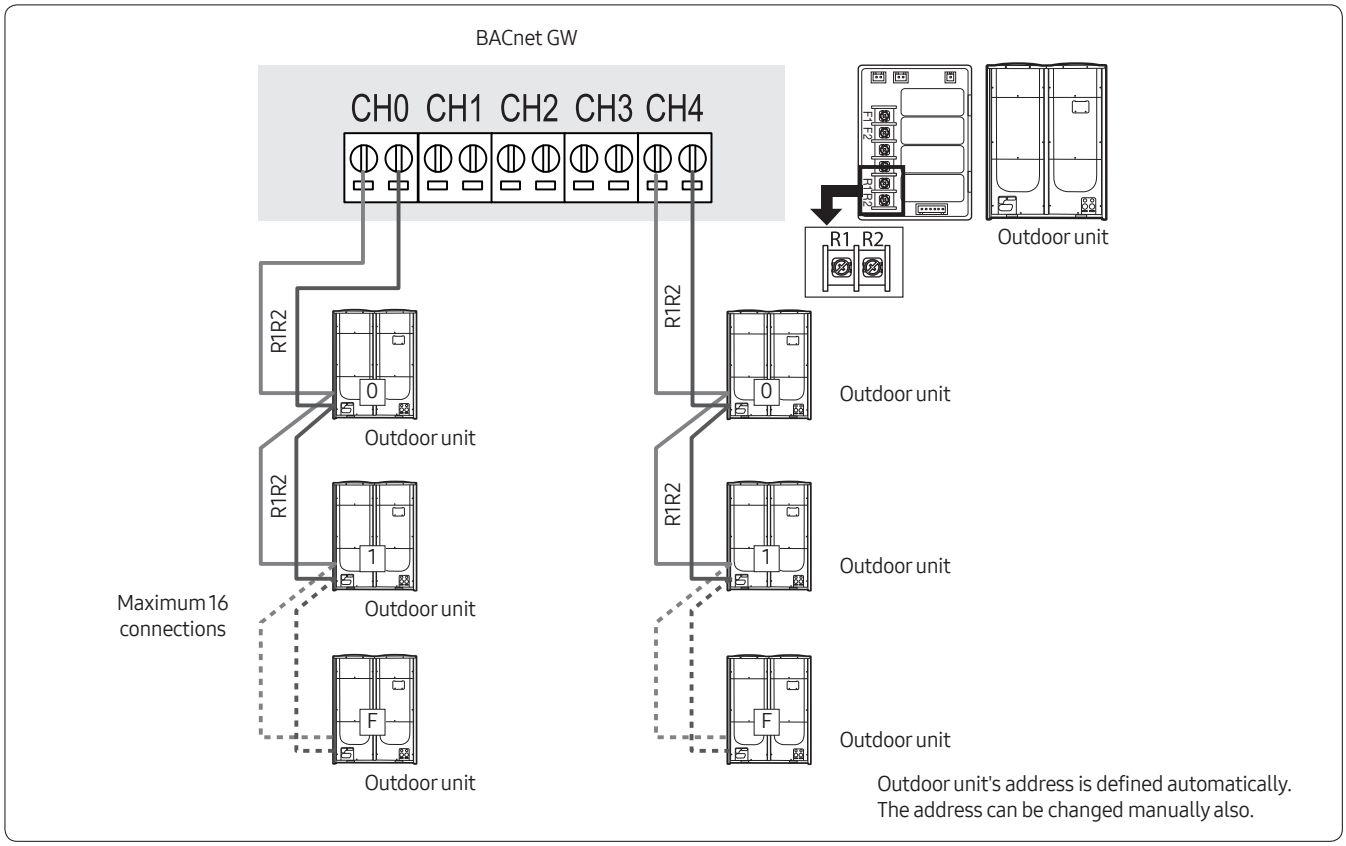
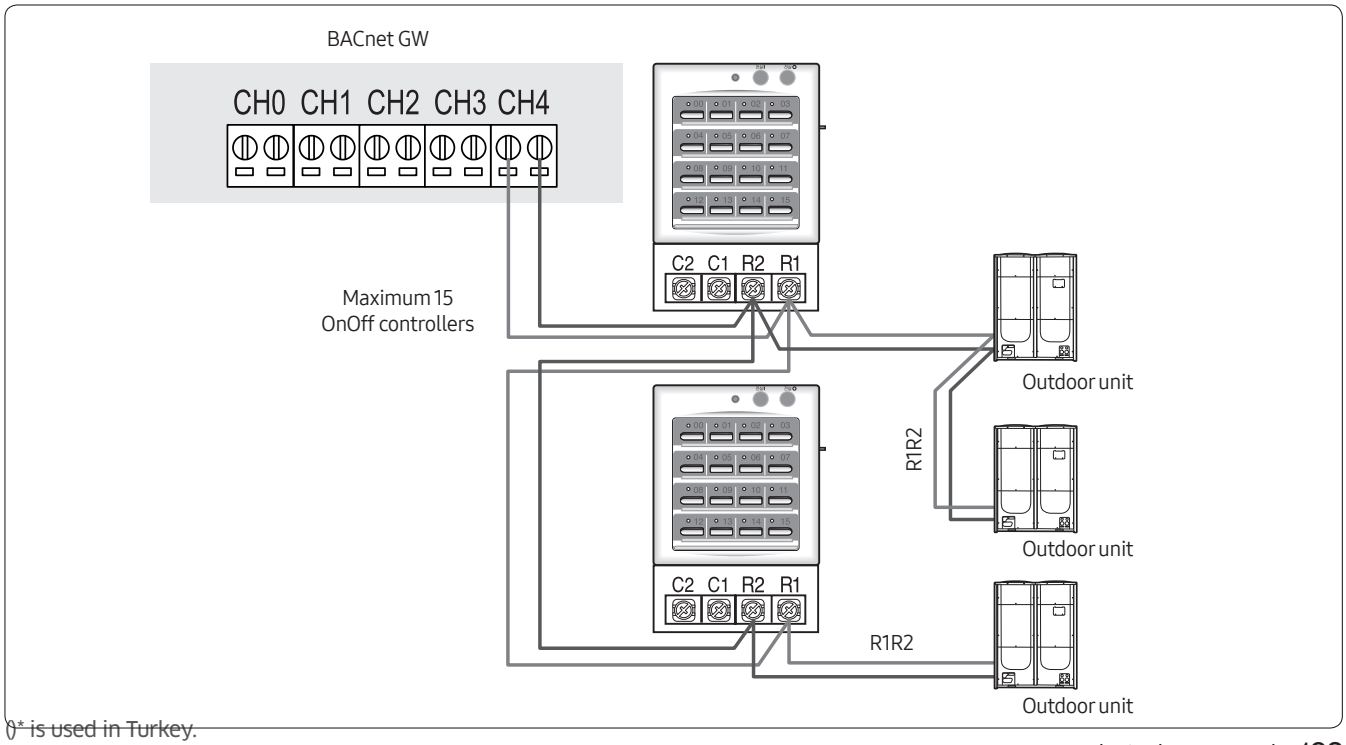
Connecting with outdoor unit



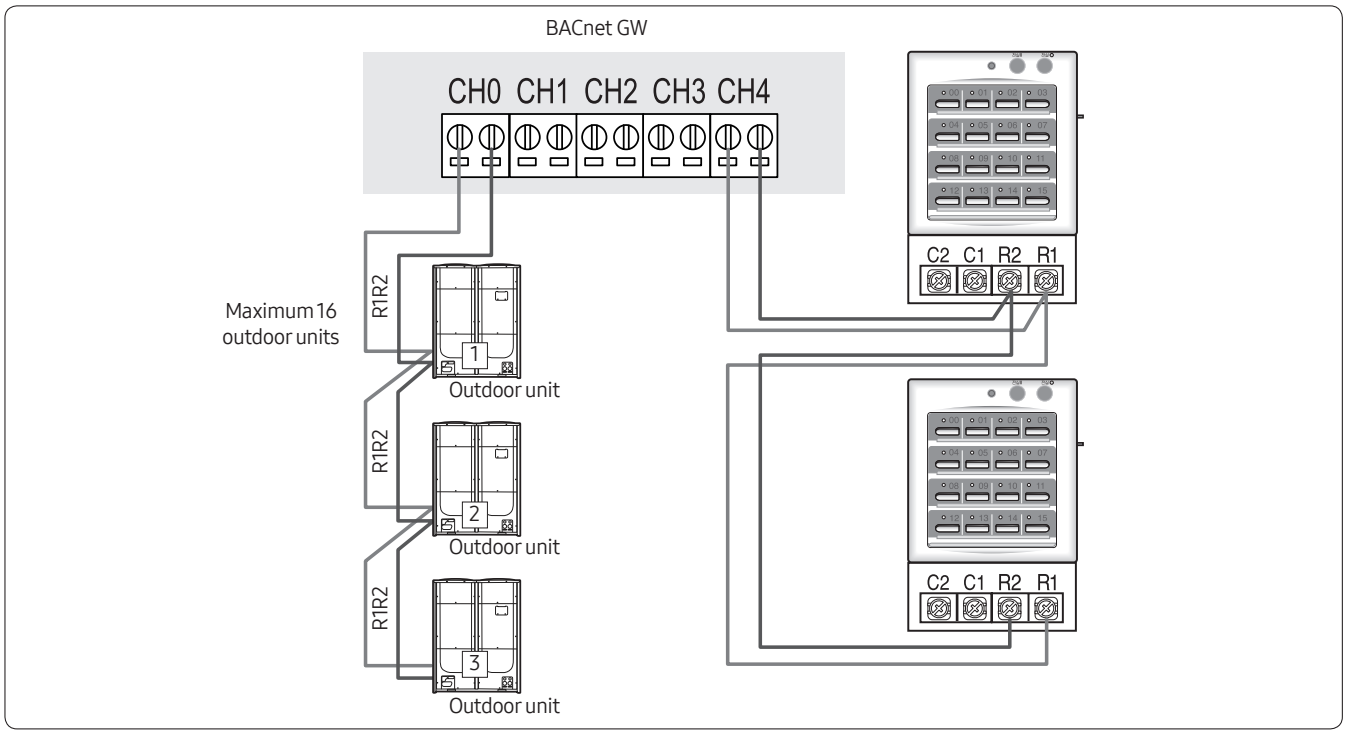
Connecting with OnOff controller



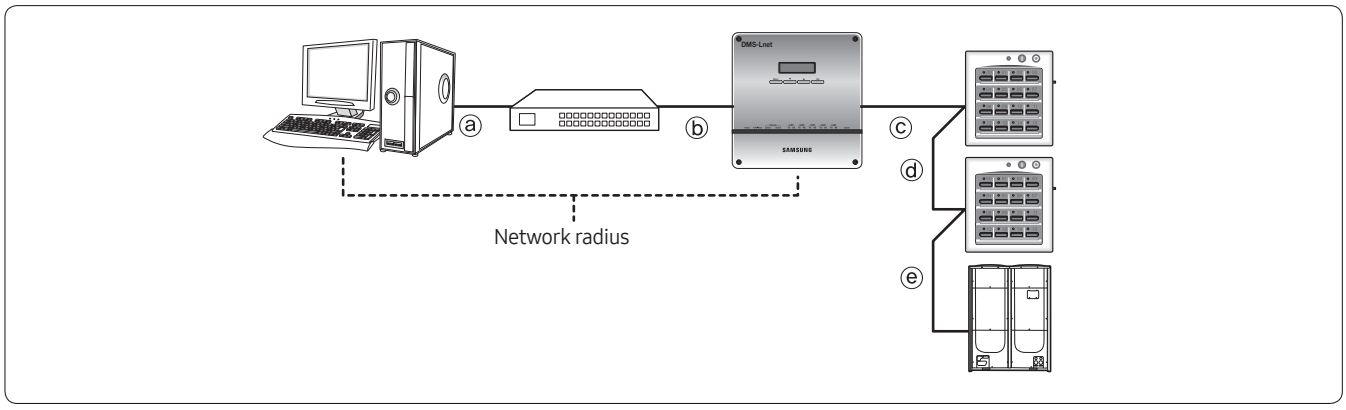
()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Connecting with outdoor unit and OnOff controller



Wiring distance



Distance between LonWorks GW and OnOff controller/outdoor unit

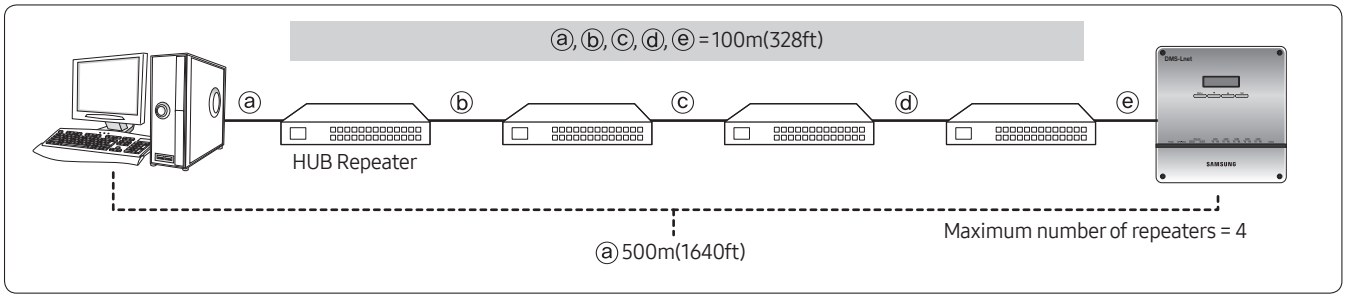
- Distance from the LonWorks GW to the furthest device cannot exceed 1000m(3280ft).
- ⓒ + ⓓ + ⓔ ≤ 1000m(3280ft)

Distance between LonWorks GW and upper level controller

- Since LonWorks GW supports 100 Base-T Ethernet, first repeater or upper level controller from the LonWorks GW cannot be further than 100m(328ft) (IEEE 802.3). Therefore, maximum network radius is restricted to 500m(1640ft).

()* is used in Turkey.

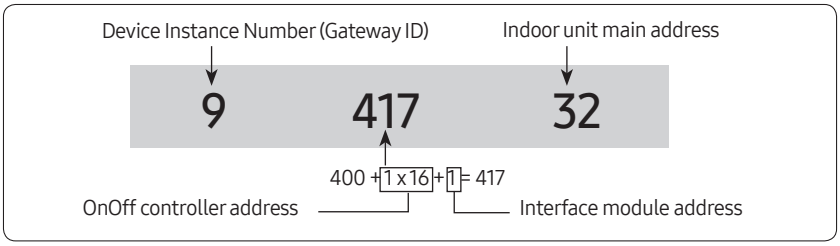
BACnet Gateway › MIM-B17BN (MIM-B17BRN)*



Description of device ID

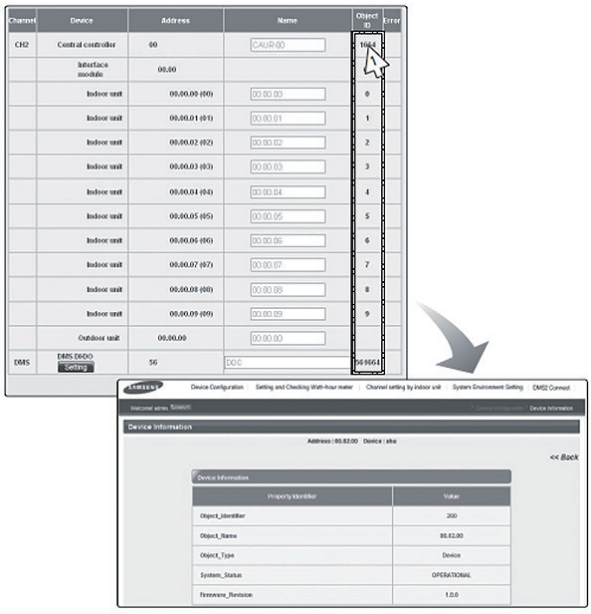
Item	DNET – Range [Digit 2]	CPP – Range [Digit 3]	INDOOR – Range [Digit 2]
OnOff Controller	1~40	000~015	64
PIM	1~40	100~115	64
DMS DI/DO	1~40	300~315	64
Interface Module	1~40	400~655 (16 x 16)	64
Indoor Unit, ERV AHU kit, EHS	1~40	400~655	0~63
Gateway	1~40	900	64

Ex)
- Indoor Unit
- DNET (Gateway number): 9
- Indoor Unit Address: 01.01.32
- Device ID: 941732



Checking device ID from BACnet Gateway

- Click 'Object ID' from the 'Object ID' column.
  Detail information window will appear and detail information will be displayed.



()* is used in Turkey.

Object List

Indoor unit

Single indoor unit has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Indoor Temperature	AI	AC_RoomTemp_xx_xxxxxx	°C(°F)				
2	Set temperature	AV	AC_Temp_Set_xx_xxxxxx	°C(°F)				
3	Setting lower temperature limit	AV	AC_Cool_LimitTemp_xx_xxxxxx	°C(°F)				
4	Setting upper temperature limit	AV	AC_Heat_LimitTemp_xx_xxxxxx	°C(°F)				
5	The power value of an indoor unit after the basic date	AI	AC_Baseline_kWh_xx_xxxxxx	kWh				
6	The number of hours usage of an indoor unit after the basic date	AI	AC_Baseline_Minute_xx_xxxxxx	Minute				
7	Power value within period	AI	AC_Period_kWh_xx_xxxxxx	kWh				
8	The number of hours usage of an indoor unit within period	AI	AC_Period_Minute_xx_xxxxxx	Minute				
9(**)	Power On/Off	BV	AC_Power_xx_xxxxxx	Off	On			
10	Applying lower temperature limit setting	BV	AC_Cool_Limit_set_xx_xxxxxx	False	True			
11	Applying upper temperature limit setting	BV	AC_Heat_Limit_set_xx_xxxxxx	False	True			
12(**)	Filter sign status	BI	AC_FilterSign_xx_xxxxxx	False	True			
13(**)	Filter sign reset	BO	AC_FilterSign_Reset_xx_xxxxxx	False	True			
14(**)	Operation mode status	MV	AC_Operation_Mode_xx_xxxxxx	Auto	Cool	Heat	Fan	Dry
15(*)	Fan speed status	MV	AC_FanSpeed_xx_xxxxxx	Auto	Low	Mid	High	Turbo
16(*)	Air flow direction status	MV	AC_FanFlow_xx_xxxxxx	1. None, 2: Vertical, 3: Horizon, 4: All, 5: Spot, 6: Mid, 7: Wide, 8: Swing				
17(**)	Operation mode limit status	MV	AC_Mode_Limit_xx_xxxxxx	No Limit	Cool Only	Heat Only		
18(**)	Remote controller limit status	MV	AC_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC		
19(**)	Integrated error code of both indoor unit and outdoor unit	AI	AC_Error_Code_xx_xxxxxx	Refer to Samsung integrated error code list				
20(*)	SPI setting	BV	AC_SPI_xx_xxxxxx	False	True			
21(*)	HumanSensor setting	BV	AC_MDS_xx_xxxxxx	False	True			

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Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
22(*)	Discharge cooling set temperature	AV	AC_DisCoolTemp_Set_xx_xxxxxx	°C(°F)				
23(*)	Discharge heating set temperatrue	AV	AC_DisHeatTemp_Set_xx_xxxxxx	°C(°F)				
24(*)	Discharge current temperature	AI	AC_DisCurrentTemp_xx_xxxxxx	°C(°F)				
25(**)	AC Indoor Notify	NC	AC_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)				

Note

- Temperature setting range can be different depending on the model and the common range is as follows:
  - Auto: 18~30˚C(64~86˚F)
  - Cool: 18~30˚C(64~86˚F)
  - Heat: 16~30˚C(60~86˚F)
  - Fan: Temperature cannot be adjusted
  - Dry: 18~30˚C(64~86˚F)
- (*) Mark is optionally supported.
- For a fresh duct, (**) mark is supported.

AHU kit

Single AHU unit has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Indoor Temperature	AI	AHU_RoomTemp_xx_xxxxxx	°C(°F)				
2	Set temperature	AV	AHU_Temp_Set_xx_xxxxxx	°C(°F)				
3	Setting lower temperature limit	AV	AHU_Cool_LimitTemp_xx_xxxxxx	°C(°F)				
4	Setting upper temperature limit	AV	AHU_Heat_LimitTemp_xx_xxxxxx	°C(°F)				
5	The power value of an indoor unit after the basic date	AI	AHU_Baseline_kWh_xx_xxxxxx	kWh				
6	The number of hours usage of an indoor unit after the basic date	AI	AHU_Baseline_Minute_xx_xxxxxx	Minute				
7	Power value within period	AI	AHU_Period_kWh_xx_xxxxxx	kWh				
8	The number of hours usage of an indoor unit within period	AI	AHU_Period_Minute_xx_xxxxxx	Minute				

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
9	Power On/Off	BV	AHU_Power_xx_xxxxxx	Off	On			
10	Applying lower temperature limit setting	BV	AHU_Cool_Limit_set_xx_xxxxxx	False	True			
11	Applying upper temperature limit setting	BV	AHU_Heat_Limit_set_xx_xxxxxx	False	True			
12	Filter sign status	BI	AHU_FilterSign_xx_xxxxxx	False	True			
13	Filter sign reset	BO	AHU_FilterSign_Reset_xx_xxxxxx	False	True			
14	Operation mode status	MV	AHU_Operation_Mode_xx_xxxxxx	Auto	Cool	Heat	Fan	Dry
15	Operation mode limit status	MV	AHU_Mode_Limit_xx_xxxxxx	No Limit	Cool Only	Heat Only		
16	Remote controller limit status	MV	AHU_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC		
17	Integrated error code of both indoor unit and outdoor unit	AI	AHU_Error_Code_xx_xxxxxx	Refer to Samsung integrated error code list				
18(*)	Discharge cooling set temperature	AV	AHU_DisCoolSetTemp_xx_xxxxxx	°C(°F)				
19(*)	Discharge heating set temperature	AV	AHU_DisHeatSetTemp_xx_xxxxxx	°C(°F)				
20(*)	Discharge current temperature	AI	AHU_Dis_CurrentTemp_xx_xxxxxx	°C(°F)				
21(*)	Humidification setting	BV	AHU_Humidification_xx_xxxxxx	Off	On			
22(*)	Outdoor air intake setting	BV	AHU_OAIntake_xx_xxxxxx	Off	On			
23(*)	Outdoor cooling setting	BV	AHU_OutdoorCool_xx_xxxxxx	Off	On			
24(*)	Fan speed status	MV	AHU_FanSpeed_xx_xxxxxx	Low	Mid	High		
25(*)	Set humidity status	MV	AHU_SetHumidity_xx_xxxxxx	Low	Mid	High		
26(*)	Current humidity status	MI	AHU_CurrentHumidity_xx_xxxxxx	Low	Mid	High		
27	AHU Notify	NC	AHU_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)				

Note

- (*) Mark is optionally supported.

()* is used in Turkey.

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ERV, ERV Plus

Single ERV or ERV Plus unit has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Power On/Off operation	BV	ERV_Power_xx_xxxxxx	Off	On			
2	Filter sign status	BI	ERV_FilterSign_xx_xxxxxx	False	True			
3	Filter sign reset	BO	ERV_FilterSign_Reset_xx_xxxxxx	False	True			
4	Operation mode status	MV	ERV_Operation_Mode_xx_xxxxxx	Auto	HeatEx	Bypass	Sleep	
5	Fan speed status	MV	ERV_FanSpeed_xx_xxxxxx	Low	High	Turbo		
6	Remote controller limit status	MV	ERV_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC		
7	Integrated error code of ERV unit	AI	ERV_Error_Code_xx_xxxxxx					
8(*)	The power value of an ERV Plus unit after the basic date	AI	ERV_Plus_Baseline_kWh_xx_xxxxxx	kWh				
9(*)	The number of hours usage of an ERV Plus unit after the basic date	AI	ERV_Plus_Baseline_Minute_xx_xxxxxx	Minute				
10(*)	Power value within period	AI	ERV_Plus_Period_kWh_xx_xxxxxx	kWh				
11(*)	The number of hours usage of an ERV Plus unit within period	AI	ERV_Plus_Period_Minute_xx_xxxxxx	Minute				
12(*)	ERV Plus operation mode status	MV	ERV_Plus_Operation_Mode_xx_xxxxxx	Auto	Cool	Heat	Off	
13(*)	ERV Plus operation mode limit status	MV	ERV_Plus_Mode_Limit_xx_xxxxxx	No Limit	Cool Only	Heat Only		
14(*)	ERV Notify	NC	ERV_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)				

Note

- (*) Mark is optionally supported.

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DVM CHILLER

Single DVM CHILLER Unit has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Chilled Water Temperature	AI	MC_WaterTemp_xx_xxxxxx	°C(°F)				
2	Set temperature	AV	MC_WaterTemp_Set_xx_xxxxxx	°C(°F)				
3	Demand limit setting	AV	MC_Demand_Set_xx_xxxxxx	%				
4	The number of hours usage of an indoor unit after the basic date	AI	MC_Baseline_Minute_xx_xxxxxx	Minute				
5	The number of hours usage of an indoor unit within peirod	AI	MC_Period_Minute_xx_xxxxxx	Minute				
6	Power On/Off operation	BV	MC_Power_xx_xxxxxx	Off	On			
7	Water Law	BO	MC_Water_Law_xx_xxxxxx	False	True			
8(*)	Quiet	BV	MC_Quiet_xx_xxxxxx	Off	On			
9(*)	Forced Fan	BV	MC_Forced_Fan_xx_xxxxxx	Off	On			
10(*)	Operation mode status	MV	MC_Operation_Mode_xx_xxxxxx	Cool	Heat	Cool Storage	Hot Water	
11(*)	Remote controller limit status	MV	MC_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC		
12(*)	Integrated error code	AI	MC_Error_Code_xx_xxxxxx					
13(*)	DVM CHILLER Notify	NC	MC_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)				

BACnet Device Object does not support master function of DVM CHILLER.

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Object list

EHS

Instance Number	Object	Object Type	Object Name	Unit	Status value		
				Inactive	Active		
				Text-1	Text-2	Text-3	Text-4
1	Room temperature	AI	EHS_RoomTemp_xx_xxxxxx	°C(°F)			
2	Set temperature	AV	EHS_Temp_Set_xx_xxxxxx	°C(°F)	Use when displayed temperature type is set to 'Room'.		
3	Set temperature of water out	AV	EHS_WaterOutTemp_Set_xx_xxxxxx	°C(°F)	Use when displayed temperature type is set to 'WaterOut'.		
4	Set temperature of hot water	AV	EHS_HotWaterTemp_Set_xx_xxxxxx	°C(°F)			
5	Setting lower temperature limit	AV	EHS_Cool_LimitTemp_xx_xxxxxx	°C(°F)			
6	Setting upper temperature limit	AV	EHS_Heat_LimitTemp_xx_xxxxxx	°C(°F)			
7	Lower temperature limit for water out	AV	EHS_WOCoolLimitTemp_xx_xxxxxx	°C(°F)			
8	Upper temperature limit for water out	AV	EHS_WOHeatLimitTemp_xx_xxxxxx	°C(°F)			
9	Upper temperature limit for hot water	AV	EHS_WTHeatlLimitTemp_xx_xxxxxx	°C(°F)			
10	The power value after the basic date	AI	EHS_Baseline_kWh_xx_xxxxxx	kWh			
11	The number of hours usage of an in- door unit after the basic date	AI	EHS_Baseline_Minute_xx_xxxxxx	Minute			
12	Power value within period	AI	EHS_Period_kWh_xx_xxxxxx	kWh			
13	The number of hours usage of an in- door unit within period	AI	EHS_Period_Minute_xx_xxxxxx	Minute			
14	Current temperature of water out	AI	EHS_WOCurrentTemp_xx_xxxxxx	°C(°F)			
15	Current temperature of hot water	AI	EHS_HotWaterTemp_xx_xxxxxx	°C(°F)			
16	Displayed temperature type	BI	EHS_ControlTempType_xx_xxxxxx	Room	WaterOut		
17	Thermostat usage	BI	EHS_Thermostat_xx_xxxxxx	False	True		
18	Outing	BI	EHS_GoOut_xx_xxxxxx	Off	On		
19	Power On/Off	BV		Off	On		
20	Setting lower temperature limit	BV	EHS_Cool_LimitTemp_Set_xx_xxxxxx	False	True	Use when displayed tempera- ture type is set to 'Room'.	

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Instance Number	Object	Object Type	Object Name	Unit	Status value		
				Inactive	Active		
				Text-1	Text-2	Text-3	Text-4
21	Setting upper temperature limit	BV	EHS_Heat_LimitTemp_Set_xx_xxxxxx	False	True	Use when displayed tempera- ture type is set to 'Room'.	
22	Apply lower temperature limit for water out	BV	EHS_WOCoolLimitFlag_xx_xxxxxx	False	True	Use when displayed tempera- ture type is set to 'WaterOut'.	
23	Apply upper temperature limit for water out	BV	EHS_WOHeatLimitFlag_xx_xxxxxx	False	True	Use when displayed tempera- ture type is set to 'WaterOut'.	
24	Apply upper temperature limit for hot water	BV	EHS_WTHeatLimitFlag_xx_xxxxxx	False	True		
25	On/Off status of hot water mode	BV	EHS_HotWater_Power_xx_xxxxxx	Off	On		
26	Status of quiet operation	BV	EHS_Sleep_xx_xxxxxx	Off	On		
27	Operation mode status	MV	EHS_Operation_Mode_xx_xxxxxx	Auto	Cool	Heat	
28	Operation mode limit status	MV	EHS_Mode_Limit_xx_xxxxxx	No Limit	Cool Only	Heat Only	
29	Remote controller limit status	MV	EHS_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC	
30	Status of hot water operation mode	MV	EHS_HotWater_Mode_xx_xxxxxx	* Force	Eco	Standard	1PXFS
31	Integrated error code of both indoor unit and outdoor unit	AI	EHS_Error_Code_xx_xxxxxx				
32	EHS notifiy	NC	EHS_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)			

Note

- Force hot water mode (* marked) will be supported later. It is the point list of Hydro Unit and Hydro Unit HT.

()* is used in Turkey.

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SIM (PIM)

Single SIM (PIM) has following point list.

Instance Number	Object	Object Type	Object Name	Status value
1	SIM (PIM) error code	AI	SIM_Error_Code_xx_xx	Refer to list of error code
2	SIM (PIM) Notify	NC	SIM_Notify_xx_xx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)

OnOff Controller

Single OnOff Controller has following point list.

Instance Number	Object	Object Type	Object Name	Status value
1	OnOff Controller error code	AI	Central_Error_Code_xx_xx	Refer to the list of the integrated error code
2	OnOff Controller notify	NC	Central_Notify_xx_xx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)

Interface module (Outdoor unit)

Single Interface(Outdoor unit) module has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Outside temperature	AI	ODU_Outside_Temp_xx_xxxx	°C(°F)				
2(*)	Cool capacity compensation	AV	ODU_Cool_Compensation_xx_ xxxx	0: 5~7°C(41~45°F)/1: 7~9°C(41~48°F)/ 2: 9~11°C(48~52°F)/3: 10~12°C(50~54°F)/ 4: 11~13°C(52~55°F)/5: 12~14°C(54~57°F)/ 6: 13~15°C(55~59°F)/14: Auto control (from ODU)				
3(*)	Heat capacity compensation	AV	ODU_Heat_Compensation_xx_ xxxx	0: 25kg/cm²/1: 26kg/cm²/ 2: 27kg/cm²/3: 28kg/cm²/ 4: 29kg/cm²/5: 30kg/cm²/ 6: 31kg/cm²/7: 32kg/cm²/ 8: 33kg/cm²/14: Auto control (from ODU)				
4	Compressor status	BI	ODU_Comp_Status_xx_xxxx	False	True			
5	Interface module error code	AI	Repeater_Error_Code_xx_xxxx	Refer to the list of the integrated error code				
6	Interface module notify	NC	IM_Notify_xx_xxxx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)				

(*) Mark is optionally supported.

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

BACnet Gateway

BACnet Gateway has following point list.

Instance Number	Control and Monitoring	Object Type	Object Name	Status value
1	All device OFF	BO	ALL_OFF_xx	Inactive: All devices Off
2	DMS2.5 Status	AI	DMS2_Status_xx	0: Normal, 8: Emergency stop, 105: Tracking in progress, 108: Tracking failed 109: DMS2.5 <-> BACnet Communication failed
3	BACnet error code	AI	BACnetApp_Error_ Code_xx	BACnet error code
4	Gateway Notify	NC	GW_Notify_xx	When the error occurred, send event to list of destination in the recipient_list. (Max: 8)

Digital input/output

Digital input/output Gateway has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Digital Input 1	BI	DI_01_xx_xx (BACnet Gateway Reserved)	Off	On			
2	Digital Input 2	BI	DI_02_xx_xx (BACnet Gateway Reserved)	Off	On			
3	Digital Input 3	BI	DI_03_xx_xx	Off	On			
4	Digital Input 4	BI	DI_04_xx_xx	Off	On			
5	Digital Input 5	BI	DI_05_xx_xx	Off	On			
6	Digital Input 6	BI	DI_06_xx_xx	Off	On			
7	Digital Input 7	BI	DI_07_xx_xx	Off	On			
8	Digital Input 8	BI	DI_08_xx_xx	Off	On			
9	Digital Input 9	BI	DI_09_xx_xx	Off	On			
10	Digital Input 10	BI	DI_10_xx_xx	Off	On			
11	Digital Output 1	BO	DO_01_xx_xx (BACnet Gateway Reserved)	Off	On			
12	Digital Output 2	BO	DO_02_xx_xx (BACnet Gateway Reserved)	Off	On			
13	Digital Output 3	BO	DO_03_xx_xx	Off	On			
14	Digital Output 4	BO	DO_04_xx_xx	Off	On			
15	Digital Output 5	BO	DO_05_xx_xx	Off	On			
16	Digital Output 6	BO	DO_06_xx_xx	Off	On			
17	Digital Output 7	BO	DO_07_xx_xx	Off	On			
18	Digital Output 8	BO	DO_08_xx_xx	Off	On			

⚠ **Caution**

- You may use ALL_OFF command to turn on all the indoor units but it is not recommended.
- If communication error occurs on devices such as SIM/OnOff Controller/Interface Module etc, other functions such as power distribution may also create a problem. You must have BMS system to check the errors and you must take action immediately.

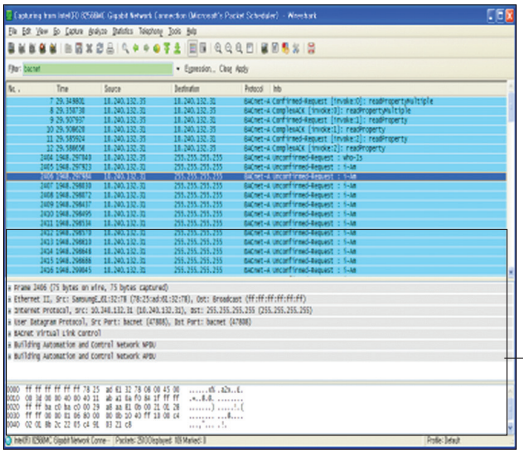
()* is used in Turkey.

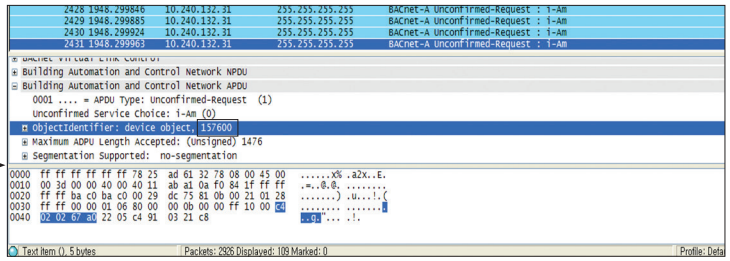
BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Checking BACnet communication through Wireshark

Who-is (I-Am)

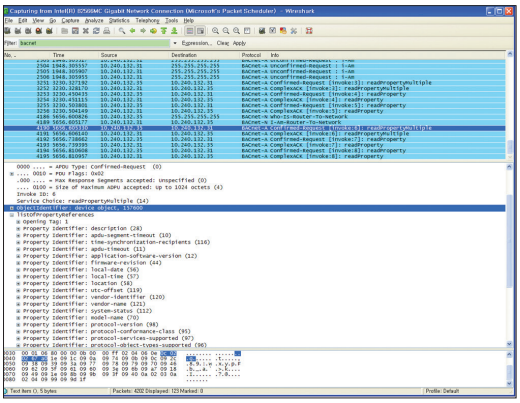
- After device instance numbers have been automatically assigned, Who-is command which is requested in the Wireshark will be replied by i-am from the devices.



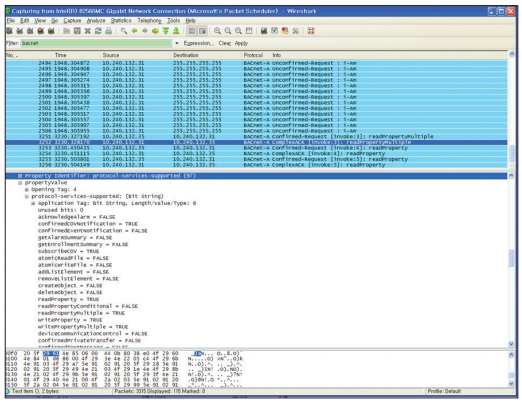


ReadPropertyMultiple

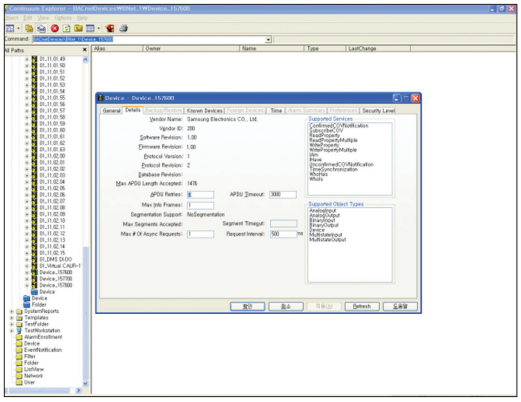
- Request all status datas.
- Device description, BACnet network number device node ID, status, BACnet MAC address version, Max APDU length accepted, APDU retries, timeout, supported services, supported object types and so on.



ReadPropertyMultiple Request



ReadPropertyMultiple Response



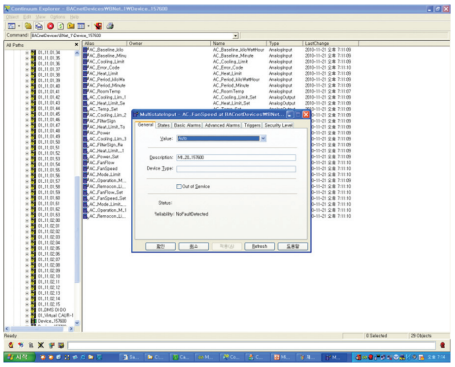
Continuum CyberStation

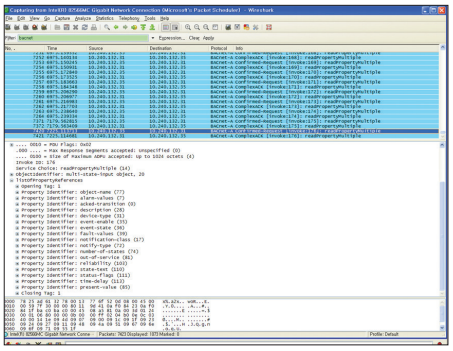
()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

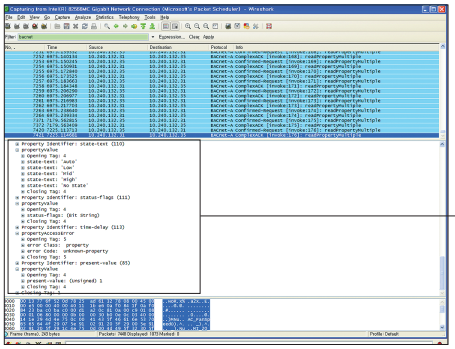
ReadPropertyMultiple

- Object_MultiStateInput



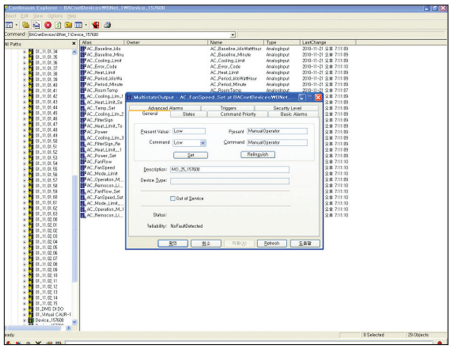


Request



```
Property Identifier: state-text (110)
propertyValue
  Opening Tag: 4
  state-text: 'Auto'
  state-text: 'Low'
  state-text: 'Mid'
  state-text: 'High'
  state-text: 'No State'
  Closing Tag: 4
Property Identifier: status-flags (111)
propertyValue
  Opening Tag: 4
  status-flags: (Bit String)
  Closing Tag: 4
Property Identifier: time-delay (113)
propertyAccessError
  Opening Tag: 5
  error Class:  property
  error Code:  unknown-property
  Closing Tag: 5
Property Identifier: present-value (85)
propertyValue
  Opening Tag: 4
  present-value: (Unsigned) 1
  Closing Tag: 4
Closing Tag: 1
```

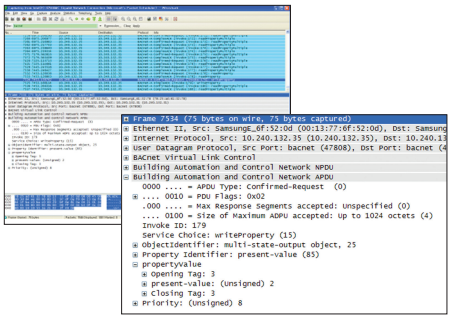
- WriteProperty



Change the FanSpeed from Auto to Low

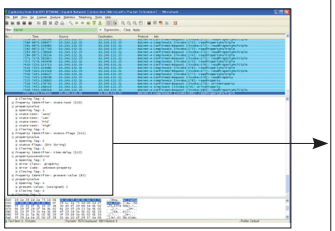
```
BACnet-A Confirmed-Request [invoke:179]: writeProperty
BACnet-A SimpleACK [invoke:179]: writeProperty
BACnet-A Confirmed-Request [invoke:180]: readPropertyMultiple
BACnet-A ComplexACK [invoke:180]: readPropertyMultiple
```

1. Request - WriteProperty (FanSpeed 'Auto' → 'Low')
2. Response - SimpleACK
3. Request - ReadPropertyMultiple (FanSpeed)
4. Response – ReadPropertyMultiple (FanSpeed 'Low')



```
Frame 7534 (75 bytes on wire, 75 bytes captured)
Ethernet II, Src: Samsung_6f:52:0d (00:13:77:6f:52:0d), Dst: Samsung
Internet Protocol, Src: 10.240.132.35 (10.240.132.35), Dst: 10.240.13
User Datagram Protocol, Src Port: bacnet (47808), Dst Port: bacnet (4
BACnet Virtual Link Control
Building Automation and Control Network NPDU
Building Automation and Control Network APDU
    0000 .... = APDU Type: Confirmed-Request  (0)
    .... 0010 = PDU Flags: 0x02
    .000 .... = Max Response Segments accepted: Unspecified (0)
    .... 0100 = Size of Maximum ADPU accepted: Up to 1024 octets (4)
  Invoke ID: 179
  Service Choice: writeProperty (15)
ObjectIdentifier: multi-state-output object, 25
Property Identifier: present-value (85)
propertyValue
  Opening Tag: 3
  present-value: (unsigned) 2
  Closing Tag: 3
Priority: (unsigned) 8
```

WriteProperty



```
Property Identifier: state-text (110)
propertyValue
  Opening Tag: 4
  state-text: 'Auto'
  state-text: 'Low'
  state-text: 'Mid'
  state-text: 'High'
  Closing Tag: 4
Property Identifier: status-flags (111)
propertyValue
  Opening Tag: 4
  status-flags: (Bit String)
  Closing Tag: 4
Property Identifier: time-delay (113)
propertyAccessError
  Opening Tag: 5
  error Class:  property
  error Code:  unknown-property
  Closing Tag: 5
Property Identifier: present-value (85)
propertyValue
  Opening Tag: 4
  present-value: (Unsigned) 2
  Closing Tag: 4
Closing Tag: 1
```

ReadPropertyMultiple

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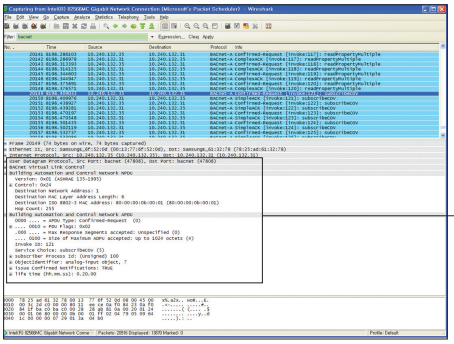
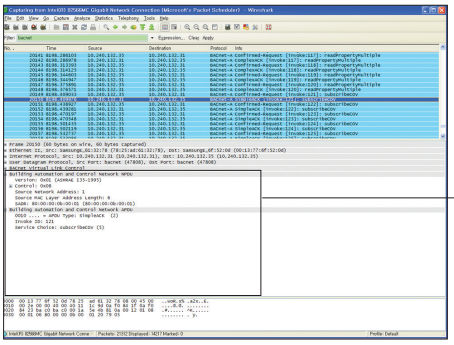
BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Subscribe COV



```
User Datagram Protocol, Src Port: bacnet (47808), Dst Port: bacnet (47808)
BACnet Virtual Link Control
Building Automation and Control Network NPDU
  Version: 0x01 (ASHRAE 135-1995)
+ Control: 0x24
  Destination Network Address: 1
  Destination MAC Layer Address Length: 6
  Destination ISO 8802-3 MAC Address: 80:00:00:0b:00:01 (80:00:00:0b:00:01)
  Hop Count: 255
Building Automation and Control Network APDU
  0000 .... = APDU Type: Confirmed-Request  (0)
+ .... 0010 = PDU Flags: 0x02
  .000 .... = Max Response Segments accepted: Unspecified (0)
  .... 0100 = Size of Maximum ADPU accepted: Up to 1024 octets (4)
  Invoke ID: 121
  Service Choice: subscribeCOV (5)
+ subscriber Process Id: (Unsigned) 100
+ ObjectIdentifier: analog-input object, 7
+ issue Confirmed Notifications: TRUE
+ life time (hh.mm.ss): 0.20.00
```

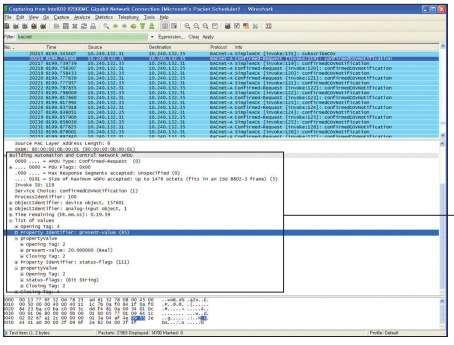
Request



```
+ User Datagram Protocol, Src Port: bacnet (47808),
+ BACnet Virtual Link Control
- Building Automation and Control Network NPDU
    Version: 0x01 (ASHRAE 135-1995)
  + Control: 0x08
    Source Network Address: 1
    Source MAC Layer Address Length: 6
    SADR: 80:00:00:0b:00:01 (80:00:00:0b:00:01)
- Building Automation and Control Network APDU
    0010 .... = APDU Type: SimpleACK  (2)
    Invoke ID: 121
    Service Choice: subscribeCOV (5)
```

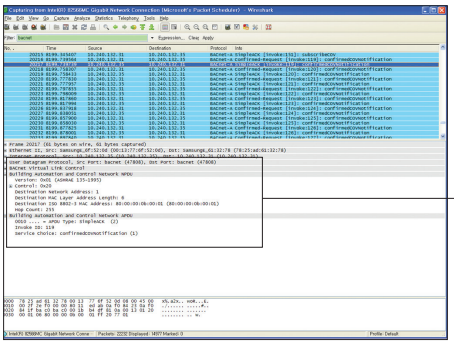
Response

COV Notification



```
Building Automation and Control Network APDU
  0000 .... = APDU Type: Confirmed-Request  (0)
+ .... 0000 = PDU Flags: 0x00
  .000 .... = Max Response Segments accepted: Unspecified (0)
  .... 0101 = Size of Maximum ADPU accepted: Up to 1476 octets (fits in an ISO 8802-3 frame) (5)
  Invoke ID: 119
  Service Choice: confirmedCOVNotification (1)
  ProcessIdentifier: 100
+ objectIdentifier: device object, 157601
+ ObjectIdentifier: analog-input object, 1
+ Time remaining (hh.mm.ss): 0.19.59
- list of Values
  + Opening Tag: 4
    Property Identifier: present-value (85)
  - propertyValue
    + Opening Tag: 2
    + present-value: 20.000000 (Real)
    + Closing Tag: 2
  + Property Identifier: status-flags (111)
  - propertyValue
    + Opening Tag: 2
    + status-flags: (Bit String)
    + Closing Tag: 2
  + Closing Tag: 4
```

Notification



```
BACnet Virtual Link Control
Building Automation and Control Network NPDU
  Version: 0x01 (ASHRAE 135-1995)
+ Control: 0x20
  Destination Network Address: 1
  Destination MAC Layer Address Length: 6
  Destination ISO 8802-3 MAC Address: 80:00:00:0b:00:01 (80:00:00:0b:00:01)
  Hop Count: 255
Building Automation and Control Network APDU
  0010 .... = APDU Type: SimpleACK  (2)
  Invoke ID: 119
  Service Choice: confirmedCOVNotification (1)
```

Response

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BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Standard Object Types Supported

Object Type	Supported	Dynamically Creatable	Dynamically Deletable	**Writeable Properties**
Analog Input	☑	☐	☐	
Analog Output	☐	☐	☐	
Analog Value	☑	☐	☐	Present value
Binary Input	☑	☐	☐	
Binary Output	☑	☐	☐	Present value
Binary Value	☑	☐	☐	Present value
Calendar	☐	☐	☐	
Command	☐	☐	☐	
Device	Yes	n/a	n/a	n/a
Event Enrollment	☐	☐	☐	
File	☐	☐	☐	
Group	☐	☐	☐	
Loop	☐	☐	☐	
Multi-state Input	☑	☐	☐	Present value
Multi-state Output	☐	☐	☐	
Multi-state Value	☑	☐	☐	Present value
Notification Class	☑	☐	☐	Recipient_List
Program	☐	☐	☐	
Schedule	☐	☐	☐	

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BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

Property support specification

Device property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	Individual identifier
2	Object name	CharacterString	R	V	SAMSUNG DVM Gateway
3	Object type	BACnetObjectType	R	V	DEVICE
4	System status	BACnetDeviceStatus	R	V	During communication: "OPERATIONAL" Error with DMS2.5: "NON_OPERATIONAL"
5	Vendor name	CharacterString	R	V	Samsung Electronics CO., Ltd.
6	Vendor identifier	Unsigned16	R	V	200
7	Model name	CharacterString	R	V	MIM-B17BN
8	Firmware revision	CharacterString	R	V	1.20
9	Application software version	CharacterString	R	V	1.20
10	Location	CharacterString	O		X
11	Description	CharacterString	O	V	DMS2_BACnetIP [ver1.00]
12	Protocol version	Unsigned	R	V	2.00
13	Protocol conformance class	Unsigned(1..6)	R		X
14	Protocol services supported	BACnetServicesSupported	R	V	For each device
15	Protocol object types supported	BACnetObjectTypesSupported	R	V	For each device
16	Object list	BACnetidentifier BACnet sequence [N]	R	V	For each device
17	Max APDU length accepted	Unsigned	R	V	1476
18	Segmentation supported	BACnetSegmentation	R	V	NO-SEGMENTATION

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BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

	Property identifier	Property data	Check code	Support	DMS2.5
19	VT classes supported	BACnetVTClass	O(1)		X
20	Active VT sessions	BACnetVTSessions	O(1)		X
21	Local time	Time	O	V	Supported
22	Local date	Date	O	V	Supported
23	UTC offset	INTEGER	O		X
24	Daylight savings timeout	BOOLEAN	O		X
25	APDU segment timeout	Unsigned	O(2)		X
26	APDU timeout	Unsigned	R	V	3000
27	Number of APDU retries	Unsigned	R	V	3
28	List of session keys	BACnetSessionKey	O		X
29	Time synchronization recipients	BACnetRecipient	O(3)		X
30	Max master	Unsigned(1..127)	O(4)	V	X
31	Max info frames	Unsigned	O(4)	V	X
32	Device address binding	BACnetAddressBinding	R	V	X
33	Protocol revision	Unsigned	R	V	2

Analog Input Property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	
4	Present value	REAL	R(1)	V	
5	Description	CharacterString	O	V	AI_Instance_device address
6	Device type	CharacterString	O		
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

	Property identifier	Property data	Check code	Support	DMS2.5
8	Event state	BACnetEventState	R	V	General Error
9	Reliability	BACnetReliability	O	V	Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_FAILURE General error → Unreliable_other
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Update interval	Unsigned	O		
12	Units	BACnetEngineeringUnits	R	V	
13	Min pres value	REAL	O	V	
14	Max Pres Value	REAL	O	V	
15	Resolution	REAL	O		
16	COV increment	REAL	O(2)	V	
17	Time delay	Unsigned	O(3)		
18	Notification class	Unsigned	O(3)		
19	High limit	REAL	O(3)		
20	Low limit	REAL	O(3)		
21	Deadband	REAL	O(3)		
22	Limit Enable	BACnetLimitEnable	O(3)		
23	Event enable	BACnetEventTransitionBits	O(3)		
24	Acked transition	BACnetEventTransitionBits	O(3)		
25	Notify type	BACnetNotifyType	O(3)		

Analog output property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	
4	Present value	REAL	W	V	
5	Description	CharacterString	O	V	AI_Instance_device address
6	Device type	CharacterString	O		

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

	Property identifier	Property data	Check code	Support	DMS2.5
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE
8	Event state	BACnetEventState	R	V	General Error Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_ FAILURE General error → Unreliable_other
9	Reliability	BACnetReliability	O	V	
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Units	BACnetEngineeringUnits	R	V	
12	Min pres value	REAL	O	V	
13	Max Pres Value	REAL	O	V	
14	Resolution	REAL	O		
15	Priority array	BACnetPriorityArray	R	V	
16	Relinquish default	REAL	R	V	
17	COV increment	REAL	O(1)		
18	Time Delay	Unsigned	O(2)		
19	Notification class	Unsigned	O(2)		
20	High limit	REAL	O(2)		
21	Low limit	REAL	O(2)		
22	Deadband	REAL	O(2)		
23	Limit enable	BACnetLimitEnable	O(2)		
24	Event Enable	BACnetEventTransitionBits	O(2)		
25	Acked transition	BACnetEventTransitionBits	O(2)		
25	Notify type	BACnetNotifyType	O(2)		

Binary input property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	

()* is used in Turkey.

BACnet Gateway > MIM-B17BN (MIM-B17BRN)*

	Property identifier	Property data	Check code	Support	DMS2.5
4	Present value	BACnetBinaryPV	W	V	
5	Description	CharacterString	O	V	AI_Instance_device address
6	Device type	CharacterString	O		
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE"
8	Event state	BACnetEventState	R	V	General Error Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_ FAILURE General error → Unreliable_other
9	Reliability	BACnetReliability	O	V	
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Polarity	BACnetPolarity	R	V	
12	Inactive text	CharacterString	O(1)	V	New
13	Active text	CharacterString	O(1)	V	New
14	Change of state time	BACnetDateTime	O(2)		
15	Change of state count	Unsigned	O(2)		
16	Time of state count reset	BACnetDateTime	O(2) O(3)		
17	Elapsed active time	Unsigned32	O(3)		
18	Time of active time reset	BACnetDate Time	O		
19	Time delay	Unsigned	O(4)		
20	Notification class	Unsigned	O(4)		
21	Alarm value	BACnetBinaryPV	O(4)		
22	Event enable	BACnetEventTransitionBits	O(4)		
23	Acked transition	BACnetEventTransitionBits	O(4)		
24	Notify type	BACnetNotifyType	O(4)		

()* is used in Turkey.

Binary output property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	
4	Present value	BACnetBinaryPV	W	V	
5	Description	CharacterString	O	V	AI_Instance_device address
6	Device type	CharacterString	O		
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE"
8	Event state	BACnetEventState	R	V	General Error Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_ FAILURE General error → Unreliable_other
9	Reliability	BACnetReliability	O	V	
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Polarity	BACnetPolarity	R	V	
12	Inactive text	CharacterString	O(1)	V	
13	Active text	CharacterString	O(1)	V	
14	Change of state time	BACnetDateTime	O(2)		
15	Change of state count	Unsigned	O(2)	V	
16	Time of State count reset	BACnetDateTime	O(2) O(3)	V	
17	Elapsed active time	Unsigned32	O(3)		
18	Time of active time reset	BACnetDate Time	O		
19	Minimum off time	Unsigned32	O		
20	Minimum on time	Unsigned32	O		
21	Priority array	BACnetPriorityArray	R		
22	Relinquish default	BACnetBinaryPV	R		
23	Time delay	Unsigned	O(4)		
24	Notification class	Unsigned	O(4)		
25	Alarm value	BACnetBinaryPV	O(4)		
26	Event enable	BACnetEventTransitionBits	O(4)		
27	Acked transition	BACnetEventTransitionBits	O(4)		
28	Notify type	BACnetNotifyType	O(4)		

()* is used in Turkey.

Multi-state input property

	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	
4	Present value	Unsigned	R(1)	V	
5	Description	CharacterString	O	V	M_Instance_device address
6	Device type	CharacterString	O		
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE
8	Event state	BACnetEventState	R	V	General Error Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_ FAILURE General error → Unreliable_other
9	Reliability	BACnetReliability	O	V	
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Number of states	Unsigned	R	V	
12	State text	BACnet sequence of characterString	O	V	
13	Time delay	Unsigned	O(2)		
14	Notification class	Unsigned	O(2)		
15	Alarm values	Unsigned list	O(2)		
16	Fault values	Unsigned list	O(2)		
17	Event enable	BACnetEventTransitionBits	O(2)		
18	Acked transition	BACnetEventTransitionBits	O(2)		
19	Notify type	BACnetNotifyType	O(2)		

()* is used in Turkey.

Multi-state Output Property

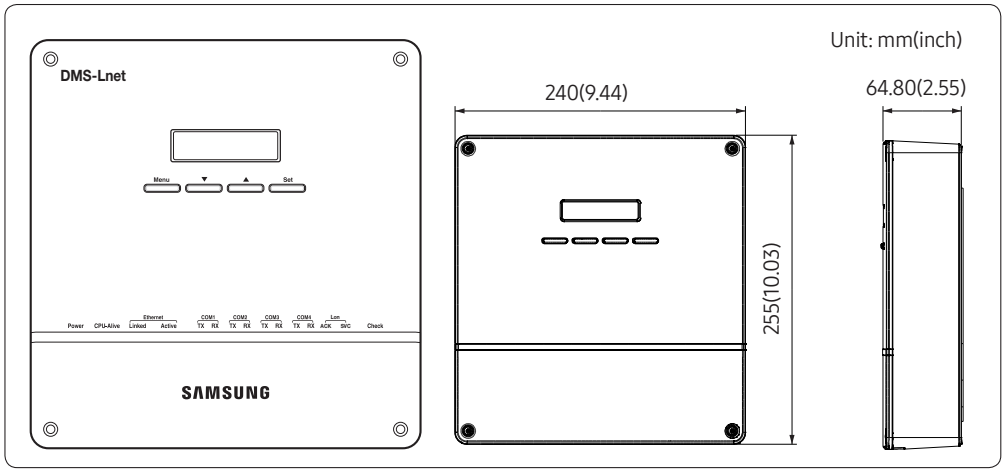
	Property identifier	Property data	Check code	Support	DMS2.5
1	Object identifier	BACnetObjectIdentifier	R	V	
2	Object name	CharacterString	R	V	
3	Object type	BACnetObjectType	R	V	
4	Present value	Unsigned	R(1)	V	
5	Description	CharacterString	O	V	M_Instance_device address
6	Device type	CharacterString	O		
7	Status Flags	BACnetStatusFlags	R	V	Communication Status_Flags FAULT flag → True OUT_OF_SERVICE → TRUE
8	Event state	BACnetEventState	R	V	General Error Status_Flags FAULT flag → TRUE FAULT if Reliability is not NO_FALUT_DETECTED Communication error → COMMUNICATION_ FAILURE General error → Unreliable_other
9	Reliability	BACnetReliability	O	V	
10	Out of service	BOOLEAN	R	V	Communication error → TRUE
11	Number of states	Unsigned	R	V	
12	State text	BACnet arrangement of CharacterString	O	V	
13	Time delay	Unsigned	O(2)		
14	Notification class	Unsigned	O(2)		
15	Alarm values	Unsigned list	O(2)		
16	Fault values	Unsigned list	O(2)		
17	Event enable	BACnetEventTransitionBits	O(2)		
18	Acked transition	BACnetEventTransitionBits	O(2)		
19	Notify type	BACnetNotifyType	O(2)		

()* is used in Turkey.

LonWorks Gateway

MIM-B18BN (MIM-B18BRN)*

Features



- For LonWorks protocol system.
- Support DMS2.5 control function at the same time.

Product specification

Power supply	Source	DC Adaptor
	Input	100~240VAC (±10%), 50/60Hz
	Output	12V 3A
Operating temperature range		-10°C ~ 50°C (14°F~122°F)
Operating humidity range		10%RH ~ 90%RH
Communication connection		• Lower layer: RS485 x 5 • Upper layer: Ethernet 100Base-T x 1 • LonWorks layer: TP/FT-10A(Free topology 78kbps)
External connection port	Digital Output	8
	Digital Input	10
Maximum length of connection	RS485	1000m (3280ft)
	Digital Output	100m (328ft)
	Digital Input	100m (328ft)
	Ethernet	100m (328ft): When there is no repeater
	LonWorks	500m (1640ft): When connecting with Bus type: 2700m (8858ft)
Max. connectable number of device	Control layer	

Device	Numbers per each channel	Total number for 5 channels
Indoor units (including ERV, MCU, FCU KIT)	128	128
Outdoor unit (including MIM-N01, MIM-N10, MIM-F10N, DVM CHILLER unit)	16	80
OnOff controller	Total 15	Total 75
Touch centralized controller		
PIM interface module (MIM-B16N)	8	8

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LonWorks Gateway > MIM-B18BN (MIM-B18BRN)*

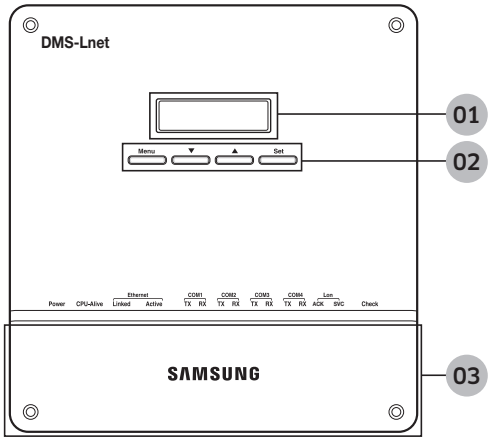
Compatible product

Outdoor unit	AM✳✳✳✳X✳✳✳✳
Controller	OnOff controller (MCM-A202DN)
	Touch centralized controller (MCM-A300N)
	PIM interface module (MIM-B16N)

- Conventional communication outdoor unit requires compatible interface module (MIM-N01) to establish connection
- MIM-B13D, MIM-B13E, MIM-B04A Interface modules cannot be connected.
- To connect ERV, MIM-N10 is required.
- To connect FCU KIT, MIM-F10N is required.
- Conventional PIM must connect to CH4(COM5) of DMS 2.5.

Description of parts

Front



No.	Item	Function
01	LCD display	Displays current time or menu.
02	Menu button	Access the setting menu.
	▼/▲ button	Select function or setting item in the setting menu.
	Set button	Enter or check setting item in the setting menu.
03	Bottom cover	Unscrew 2 screws on the bottom to remove the cover and check the cable connections.

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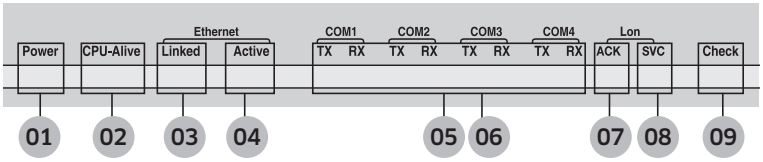
LED indicator



No.	Item	Name	Status
01	Power	Power indicator	Turns blue when the power is supplied.
02	CPU Alive	CPU operation indicator	Blinks in orange with 1 second intervals during normal operation.
03	Ethernet-Linked	Internet connection indicator	Turns green during normal connection.
04	Ethernet-Active	Internet data transmission/reception indicator	Blinks in orange during normal transmission/ reception.
05	COM1~4-TX	Channel 1~4 OnOff controller/Interface module Data transmission indicator	Blinks in green during normal transmission.
06	COM1~4-RX	Channel 1~4 OnOff controller/interface module Data reception indicator	Blinks in green during normal reception.
07	Lon ACK	LonWorks data reception indicator	Blinks in green during normal reception.
08	Lon SVC	LonWorks device status indicator	Blinks in green during un-configured.
09	Check	Indoor/Outdoor unit communication status indicator	Turns green when there is an error on more than one indoor/outdoor unit or in communication.

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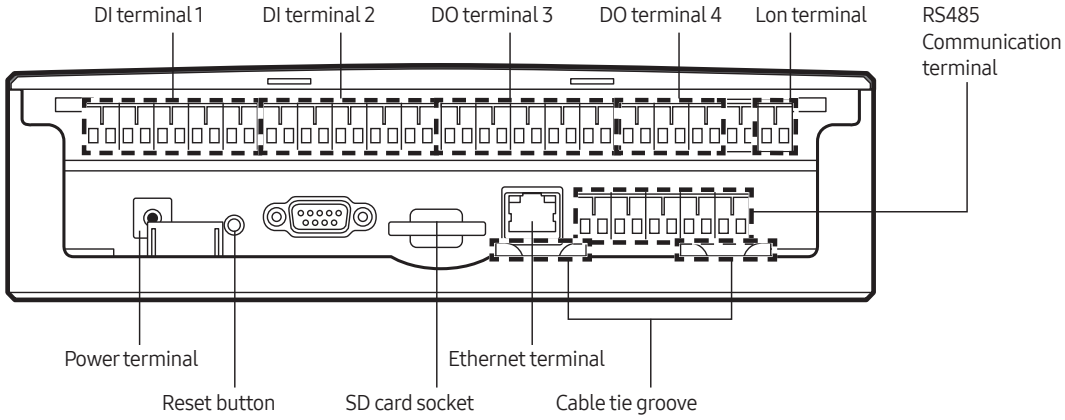
Bottom



Name	Description
DI terminal 1	Digital Input connection terminal, Channel1~Channel5
DI terminal 2	Digital Input connection terminal, Channel6~Channel10
DO terminal 3	Digital Output connection terminal, Channel1~Channel5
DO terminal 4	Digital Output connection terminal, Channel6~Channel8
Lon terminal	Terminal Block for LonWorks communication (TP/FT-10)
Reset button	Reset LonWorks Gateway
SD card socket	Sub memory (for program update and set information saving) socket
RS485 communication terminal	RS485 port for communication with OnOff controller/interface module
Ethernet Terminal	Connect LAN cable
Cable tie groove	Groove for arranging cables

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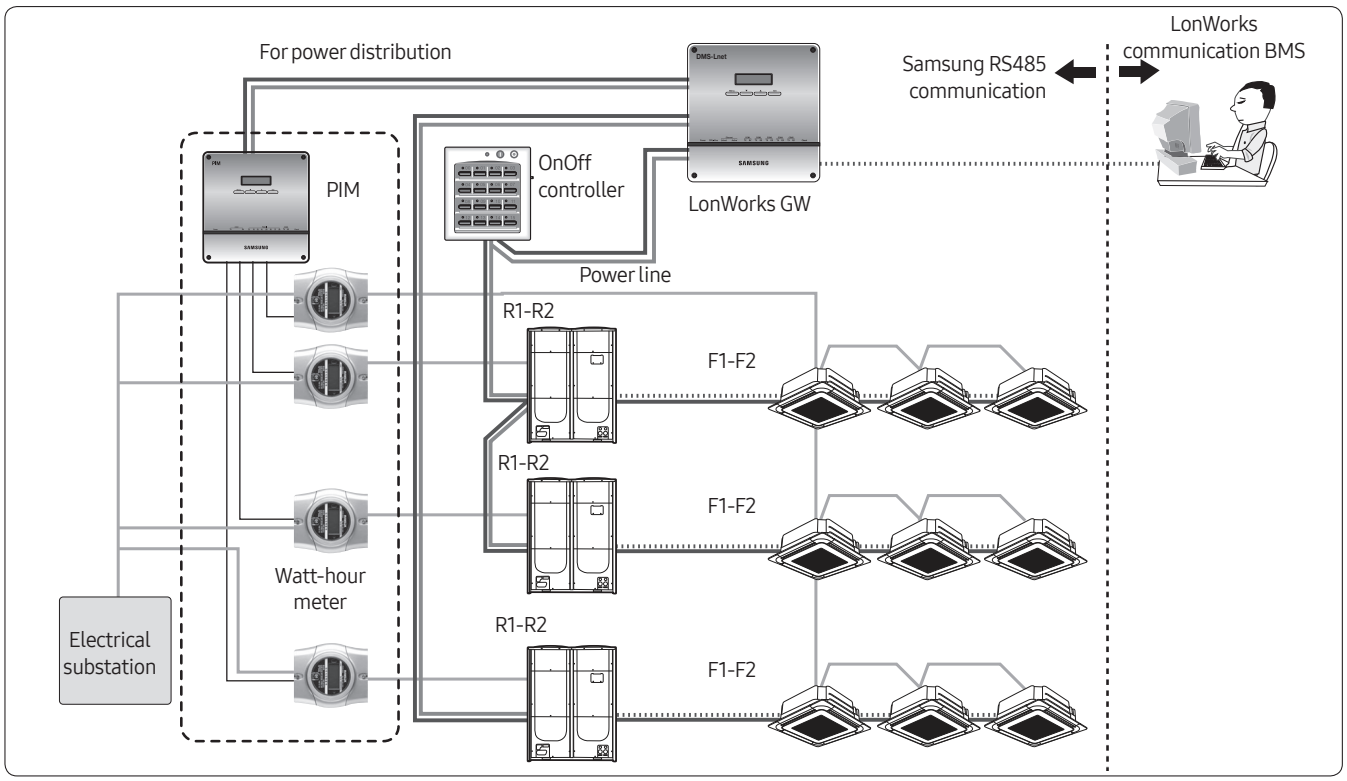
Connection diagram

MIM-B16N(PIM) can be connected with outdoor units or controllers to same channel of DMS2.5.



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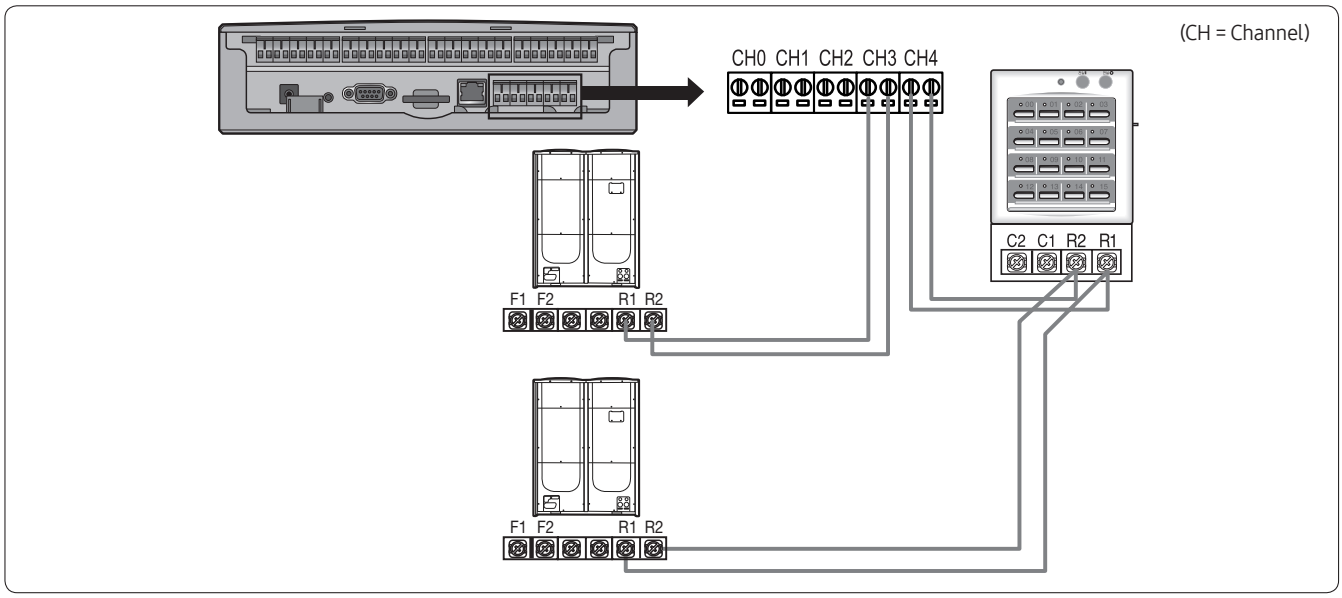
Wiring



- Connecting outdoor unit directly
  - Maximum 16 outdoor units can be connected to each channel
  - Total 80 outdoor units can be connected
- Connecting OnOff controller/Touch centralized controller
  - Maximum 15 OnOff controller/Touch centralized controller can be connected to each channel

Note

- LonWorks GW can connect outdoor unit and OnOff controller/Touch centralized controller at the same time.
- Outdoor unit and OnOff controller/Touch centralized controller can be connected to 1 communication channel at the same time.

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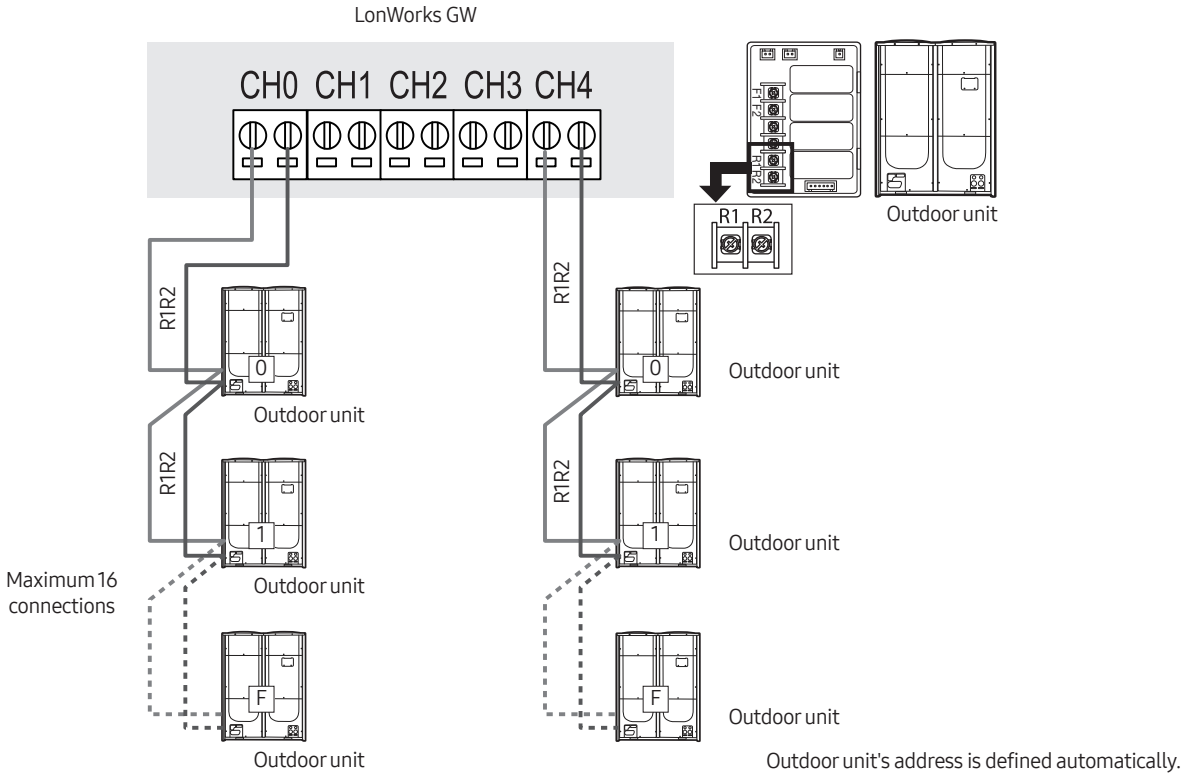
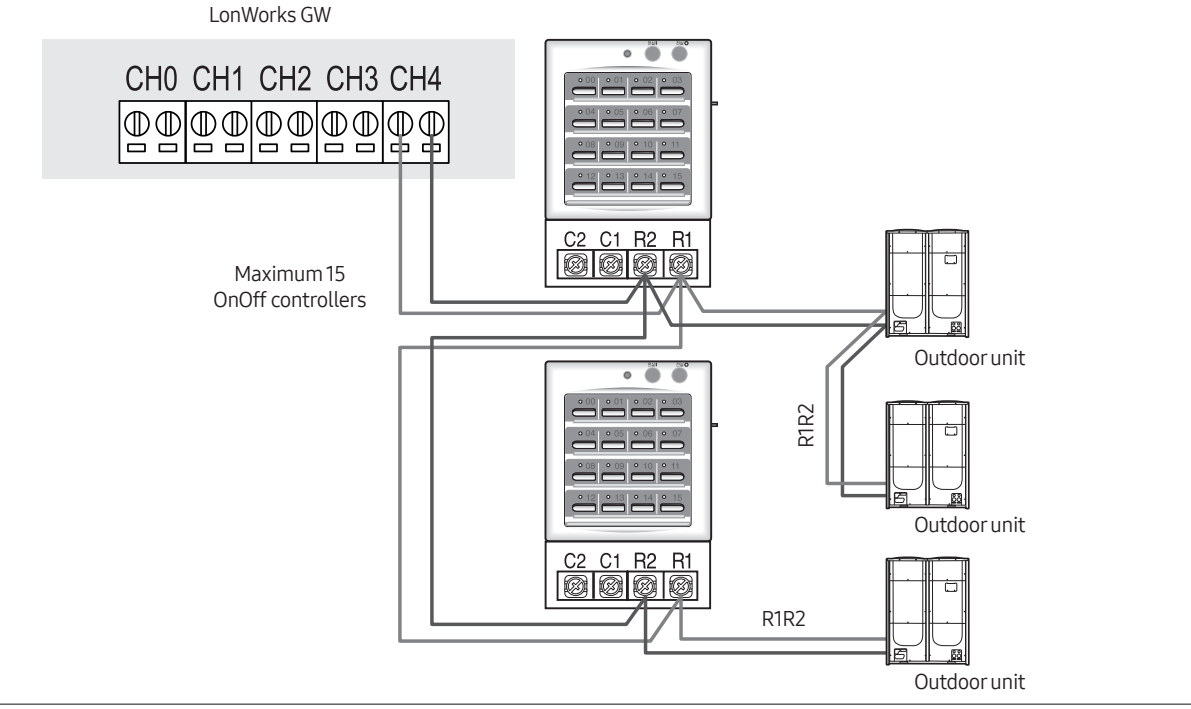
LonWorks Gateway > MIM-B18BN (MIM-B18BRN)*

Connecting with outdoor unit



Connecting with OnOff controller



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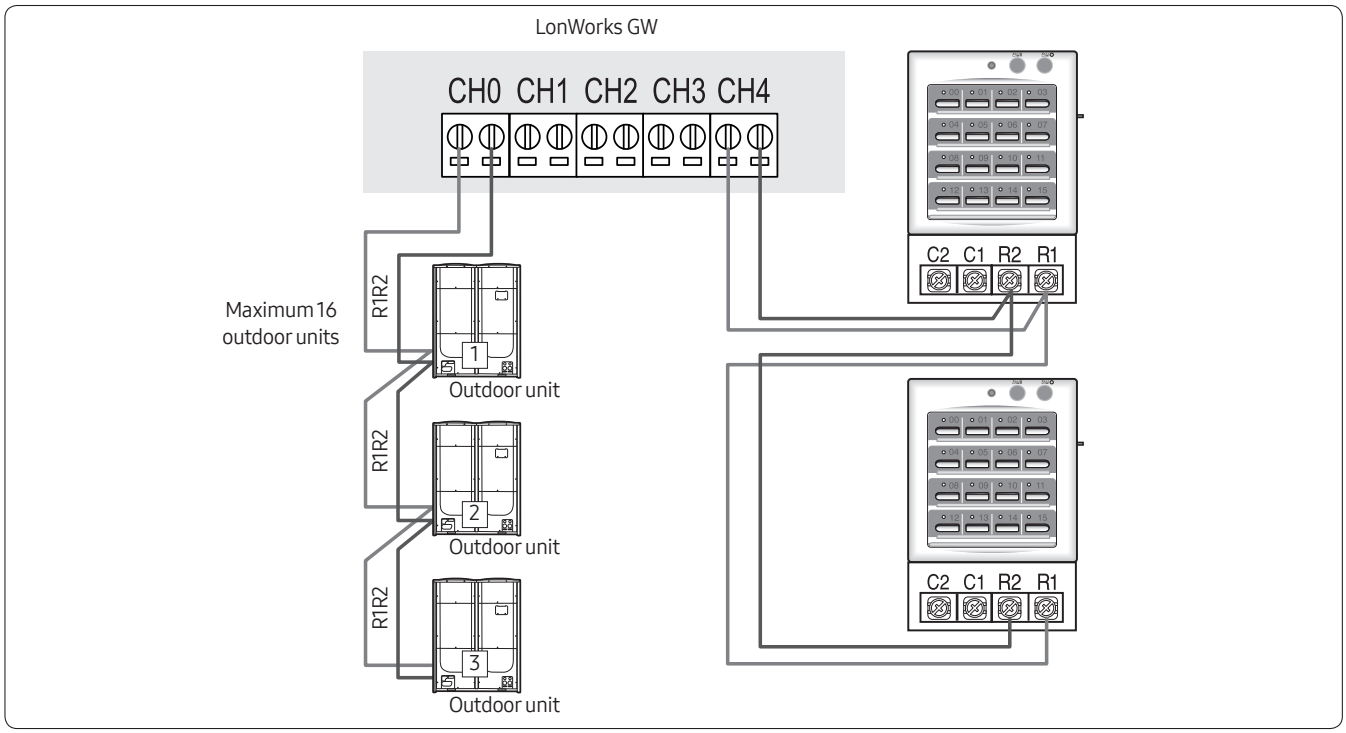
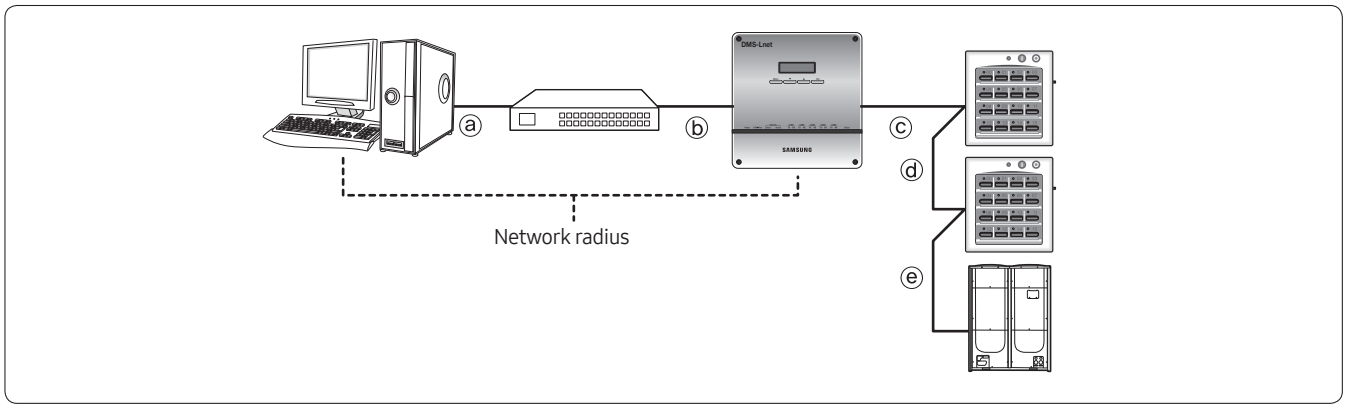
LonWorks Gateway › MIM-B18BN (MIM-B18BRN)*

Connecting with outdoor unit and OnOff controller



Wiring distance



Distance between LonWorks GW and OnOff controller/outdoor unit

- Distance from the LonWorks GW to the furthest device cannot exceed 1000m(3280ft).
- ⓒ + ⓓ + ⓔ ≤ 1000m(3280ft)

Distance between LonWorks GW and upper level controller

- Since LonWorks GW supports 100 Base-T Ethernet, first repeater or upper level controller from the LonWorks GW cannot be further than 100m(328ft) (IEEE 802.3). Therefore, maximum network radius is restricted to 500m(1640ft).

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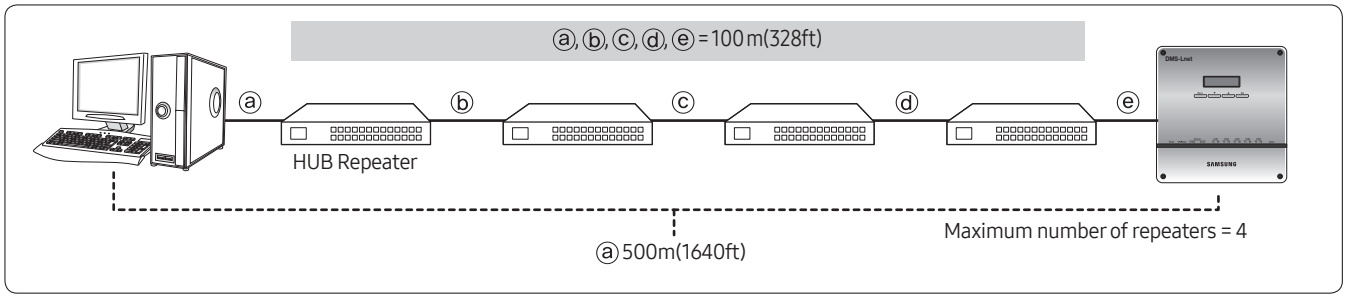
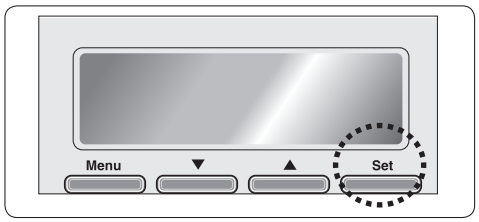
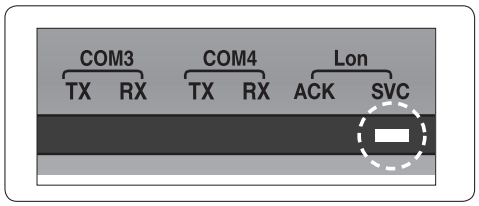
LonWorks Gateway › MIM-B18BN (MIM-B18BRN)*



Commission



- To activate the Service Pin, press and hold [SET] button for more than three seconds while time is displayed in the LCD Display window of the front side of LonWorks Gateway.



- When you press Service Pin, Neuron ID will be sent and [SVC] LED of the front panel will be lit up for a second.

Standard program identifier (SPID)

- Manufacturers: Samsung Electronics Co., Ltd. MID: 191
- Device Classes: 70.00 - Gateways/72.80 --- HVAC Gateways
- Usage (Device Subclass): Utility {11}
- Channel Types: TP/FT-10 {ID: 4}

Object Types	Description	SFPT Name
8500	SCC – Generic	SFPTspaceComfortController

- Program ID: 90:00:BF:48:50:0B:04:00

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LonWorks Gateway > MIM-B18BN (MIM-B18BRN)*

Item summary

Item		Function
Control & Monitoring	Common	Operation On/Off
		Operation mode
		Air flow direction
		Fan speed
		Device error information
		Model, address, type information
	Indoor unit AHU	Set temperature
		Indoor temperature
		Filter replacement alert/reset
		Remote controller level
		Thermostat information
		Operation restriction setting (Cooling/Heating)
		Setting lowest temperature/restriction
		Setting highest temperature/restriction
		Power consumption
	Additional functions	Operation time
		Emergency stop
		DMS2.5 DI/DO
		DMS2.5 lock
		DMS2.5 error information
		System error information

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LonWorks Gateway > MIM-B18BN (MIM-B18BRN)*

Network variable

Indoor unit/ERV/AHU kit/Fresh duct/DVM Chiller/FCU Kit

No.	Name	Type	M/O	Description
1	nviONOff	SNVT_switch	O	ON/OFF command
2	nviApplicMode	SNVT_hvac_mode	O	Setting operating mode
3	nviSetpoint	SNVT_temp_p	O	Setting desire temperature
4	nviFanStatus	SNVT_switch	O	Setting fan speed
5	nviERVMode	SNVT_count	O	Setting ERV operation mode
6	nviFilterReset	SNVT_switch	O	Filter reset command
7	nviUserLockout	SNVT_switch	O	Setting the restriction of remote control use
8	nviOccOpMode	SNVT_switch	O	Setting cooling only mode/heating only mode
9	nviCoolTempLock	SNVT_switch	O	Setting the low temperature limit
10	nviHeatTempLock	SNVT_switch	O	Setting the high temperature limit
11	nvoSpaceTemp	SNVT_temp_p	M	Display indoor temperature
12	nvoApplicMode	SNVT_hvac_mode	O	Display operating mode
13	nvoSetpoint	SNVT_temp_p	O	Display desire temperature
14	nvoOnOff	SNVT_switch	O	Display ON/OFF status
15	nvoFanStatus	SNVT_switch	O	Display fan speed
16	nvoERVMode	SNVT_count	O	Display ERV operating mode
17	nvoErrorCode	SNVT_count	O	Display Error code
18	nvoDeviceAlarm	SNVT_state	O	Remote control lock, Filter sign, Thermo ON/OFF, Error occurrence status display
19	nvoOccOpMode	SNVT_switch	O	Cooling only/Heating only setup status display
20	nvoCoolTempLock	SNVT_switch	O	Display low temperature limit setting status
21	nvoHeatTempLock	SNVT_switch	O	Display high temperature limit setting status
22	nvoUserLockout	SNVT_switch	O	Display the restriction of remote control use
23	nvoEnergyConp	SNVT_elec_kwh_l	O	Display electricity usage (Time Period)
24	nvoEnergyCon	SNVT_elec_kwh_l	O	Display electricity usage (Basic date)
25	nvoRuntimep	SNVT_time_hour	O	Display used hours (Period)
26	nvoRuntime	SNVT_time_hour	O	Display used hours (Basic date)
27	nvoDevListDesc	SNVT_str_asc	O	Indoor unit HW information

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LonWorks Gateway > MIM-B18BN (MIM-B18BRN)*

DVM system object

No.	Name	Type	M/O	Description
1	nviDigitalOut[6]	SNVT_ switch	O	Control Digital output of DMS
2	nviAllOff	SNVT_hvac_emerg	O	Control all indoor unit/ERV OFF
3	nvoDigitalOut[6]	SNVT_ switch	O	Display Digital output status of DMS
4	nvoDigitalIn[8]	SNVT_ switch	O	Display Digital input status of DMS
5	nvoSystemLock	SNVT_ switch	O	Display System Lock status of DMS
6	nvoDMS2Alarm	SNVT_ count	O	Display communication error of the sub device connected to DMS
7	nvoSystemAlarm	SNVT_ count	O	

Configuration properties

No.	Name	Type	M/O	Description
1	nciSndHrtBt	SNVT_time_sec SCPTmaxSendTime	O	Send Heartbeat
2	nciMinOutTm	SNVT_time_sec SCPTminSendTime	O	Minimum Send Time
3	nciMinDeltaTemp	SNVT_temp_p SCPTminDeltaTemp	O	Min. difference before update
4	nciDelayStatrup	SNVT_time_sec SCPTpwrupDelay	O	Delay time after a power-up

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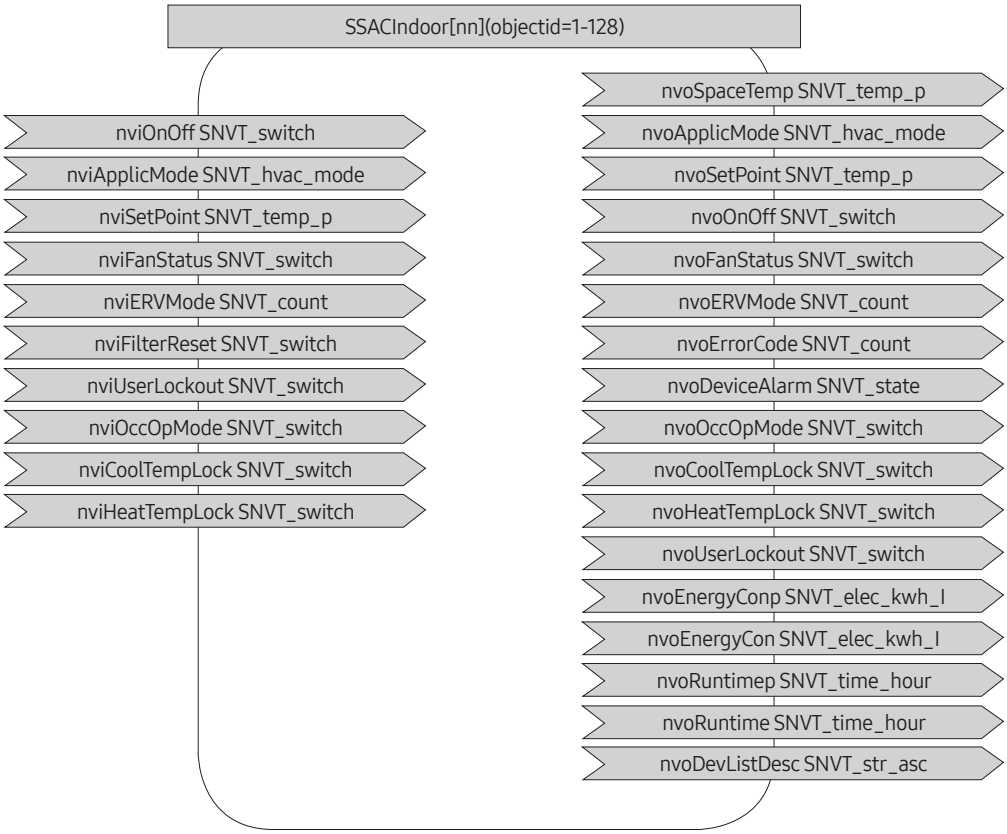
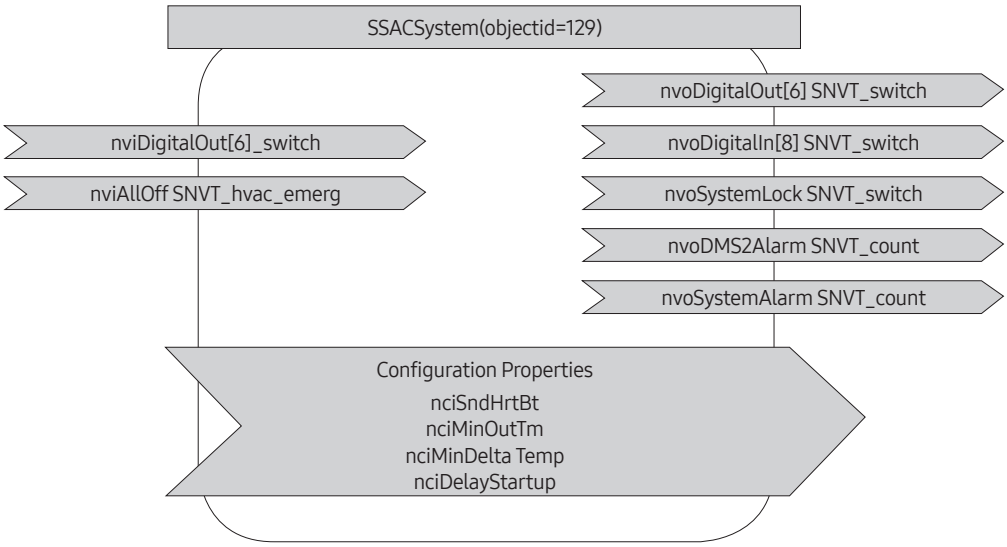
Network parameter chart

Indoor unit/ERV/AHU/DVM Chiller/FCU kit object



Indoor unit/ERV/AHU/DVM Chiller/FCU kit object



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Control and Monitoring Item

Functional classification by a device.

The functions provided can be different according to the type of the connected device.

No	NV Name	Remarks	Indoor	ERV	AHU Kit	Fresh Duct	DVM Chiller	FCU Kit
1	nviOnOff	ON/OFF Command	O	O	O	O	O	O
2	nviApplicMode	Setting operation mode	O	X	O	O	O	O
3	nviSetpoint	Setting desiarable temperature	O	X	O	X	O	O
4	nviFanStatus	Setting wind speed and direction	O	O	X	X	X	O
5	nviERVMode	Setting ERV operation mode	X	O	X	X	X	X
6	nviFilterReset	Filter reset command	O	O	O	O	X	X
7	nviUserLockout	Setting the restriction of remote control use	O	O	O	O	O	O
8	nvoOccOpMode	Setting cooling only mode/Setting heating only mode	O	X	O	O	X	O
9	nviCoolTempLock	Setting the low temperature limit	O	X	O	X	X	O
10	nviHeatTempLock	Setting the high temperature limit	O	X	O	X	X	O
11	nvoSpaceTemp	Display indoor temperature	O	X	O	X	O	O
12	nvoApplicMode	Display operating mode	O	X	O	O	O	O
13	nvoSetPoint	Display desire temperature	O	X	O	X	O	O
14	nvoOnOff	Display ON/OFF status	O	O	O	O	O	O
15	nvoFanStatus	Display wind speed and direction	O	O	X	X	X	O
16	nvoERVMode	Display ERV operating mode	X	O	X	X	X	X
17	nvoErrorCode	Display Error code	O	O	O	O	O	O
18	nvoDeviceAlarm	Remote control Lock, Filter Sign, Thermo ON/OFF, Error occurrence status display	O	O	O	O	O	O
19	nvoOccOpMode	Cooling only/Heating only setup status display	O	X	O	O	X	O
20	nvoCoolTempLock	Low temperature limit setting status display	O	X	O	X	X	O
21	nvoHeatTempLock	High temperature limit setting status display	O	X	O	X	X	O
22	nvoUserLockout	Display the restriction of remote control use	O	O	O	O	O	O
23	nvoEnergyCon_p	Display electricity usages(Time Period)	O	X	X	X	X	X
24	nvoEnergyCon	Display electricity usages(Basic date)	O	X	X	X	X	X
25	nvoRuntime_p	Display used hours(Period)	O	X	O	X	O	O
26	nvoRuntime	Display used hours(Basic date)	O	X	O	X	O	O
27	nvoDevListDesc	The summary of device information(Model, Address, Operation Status)	O	O	O	O	O	O

()* is used in Turkey.

Detail description of network variable

Indoor unit/ERV/AHU/DVM Chiller/FCU kit object

1-1. nvoSpaceTemp(11)

Description	Indoor temperature
SNVT Type	SNVT_temp_p: Signed Long, 2 bytes
Value and operation	Range: -10.0°C(14°F) ~ 50.0°C(122°F)

1-2. nvoApplicMode(12), nviApplicMode(2)

Description	Operation Mode status
SNVT Type	SNVT_hvac_mode: Enumeration(hvac_t)
Value and operation	0: HVAC_AUTO 1: HVAC_HEAT 3: HVAC_COOL 6: HVAC_OFF 9: HVAC_FAN_ONLY 11: HVAC_ICE(Cool Storage) 13: HVAC_ECONOMY(Hot Water) 14: HVAC_DEHUMID

- Invalid Value: Automatically set as HVAC_AUTO

1-3. nvoSetpoint(13), nviSetpoint(3)

Description	Set Temperature
SNVT Type	SNVT_temp_p: Signed Long, 2 bytes
Value and operation	Cool: 18.0°C(64.4°F) ~ 30.0°C(86.0°F), Heat: 16.0°C(60.8°F) ~ 30.0°C(86.0°F) DVM Chiller : -10°C(14°F) ~ 55°C(131°F)

- Invalid Value: Automatically set up as minimum or maximum value.
- When setting temperature, only an integer value is applied. A decimal point is ignored.

1-4. nvoOnOff(14), nviOnOff(1)

Description	Power ON/OFF status		
SNVT Type	SNVT_switch: Unsigned/signed Short		
Value and operation		Value	State
	OFF	0.0	0
	ON	100.0	1

1-5. nvoFanStatus(15), nvoFanStatus(4)

Description	Fan Speed and direction		
SNVT Type	SNVT_switch: Unsigned/signed Short		
Value and operation		Value	State
	Auto	0.0	-
	Low	1.0	-
	Mid	2.0	-
	High	3.0	-
	Eco	4.0	-
	Turbo	5.0	-
	Auto	Any>5.0	-
	Stop	-	0
	Up-Down	-	1

- Supporting modes are different according to indoor units.
  - Indoor unit: Auto, Low, Mid, High (Turbo: Optional)
  - ERV: Mid, High, Turbo
  - FCU Kit : Auto, Low, Mid, High
  - AHU Kit: High
- When an indoor unit operation mode is Auto or Dehumid, Fan speed is controlled as 'Auto'.
- When an indoor unit operation mode is FAN ONLY, 'Auto' cannot be controlled by Fan speed.

()* is used in Turkey.

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1-6. nvoERVMode(16), nviERVMode(5)

Description	ERV Operation Mode
SNVT Type	SNVT_count: Unsigned Long, 2 bytes
Value and operation	(0: Auto) 1: H/R (2: Air purification) 3: Sleep 4: Normal

- ( ): Function that is not supported now.

1-7. nvoErrorCode(17)

Description	Error Code
SNVT Type	SNVT_count: Unsigned Long, 2 bytes
Value and operation	Valid Range: 0 ~ 999 00 00 → No Error Refer to list of Error code

1-8. nvoDeviceAlarm(18)

Description	**1. Remote control restriction status** **2. Filter alert status** **3. Thermo On/Off status** **4. Error alert Status**
SNVT Type	SNVT_state: 16 Unsigned Bitfields
Value and operation	

Byte	Bit9	Bit8	Operation	Remark
Flags _1	0	0	Unlock	nvo User Lockout
	0	1	Level1	
	1	0	Lock	

Byte	Bit9	Bit8	Operation	Remark
Flags _2	2	0	No alarm	nvo Filter Alarm
		1	Alarm	
	1	0	Thermo Off	Thermo On/Off
		1	Thermo On	
	0	0	No Error	nvo Error Code
		1	Error	

1-9. nvoOccOpMode(19), nviOccOpModeCmd(8)

Description	Operation Mode restriction
SNVT Type	SNVT_switch: Unsigned/signed Short
Value and operation	

	Value	State
Unlock	0.0	0
Cool only	1.0	1
Heat only	2.0	1

1-10. nvoCoolTempLock(20), nviCoolTempLock(9)

Description	Setting/monitoring Lower limit temperature and function toggle
SNVT Type	SNVT_switch: Unsigned/signed Short
Value and operation	

Operation	Value	State
Unlock	18.0 ~ 30.0	0
Lock	18.0 ~ 30.0	1

Cool: 18.0°C(64.4°F) ~ 30.0°C(86.0°F)

1-11. nvoHeatTempLock(21), nviHeatTempLock(10)

Description	Setting/monitoring upper limit temperature and function toggle
SNVT Type	SNVT_switch: Unsigned/signed Short
Value and operation	

Operation	Value	State
Unlock	16.0 ~ 30.0	0
Lock	16.0 ~ 30.0	1

Heat: 16.0°C(60.8°F) ~ 30.0°C(86.0°F)

1-12. nvoEnergyConp(23)

Description	Electric consumption value within the period
SNVT Type	SNVT_elec_kwh_l: Signed Quad, 4bytes
Value and operation	Raw range: 0 ~ 999999 Resolution: 0.1

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1-13. nvoEnergyCon(24)

Description	Electric consumption value after baselin
SNVT Type	SNVT_elec_kwh_l: Signed Quad, 4bytes
Value and operation	Raw range: 0 ~ 999999 Resolution: 0.1

1-14. nvoRunTimep(25)

Description	Indoor unit usage within the period
SNVT Type	SNVT_time_hour: Signed Long, 2bytes
Value and operation	Raw range: 0 ~ 65535

1-15. nvoRunTime(26)

Description	Indoor unit usage after baseline
SNVT Type	SNVT_time_hour: Signed Long, 2bytes
Value and operation	Raw range: 0 ~ 65535

- Energy consumption and Runtime are the accumulated value during the user setting period.
- The data above is for reference so you can not use them for official billing.

1-15. nviFilterReset(6)

Description	Filter alert reset			
SNVT Type	SNVT_time_hour: Signed Long, 2bytes			
Value and operation	**Value**	**State**	**Operation**	**remark**
	0.0	0	No Action	
	100.0	1	Filter Reset	

1-15. nviUserLockout(7), nvoUserLockout(22)

Description	Remote control restriction			
SNVT Type	SNVT_switch: Unsigned/signed Short			
Value and operation	**Value**	**State**	**Operation**	**remark**
	0.0	0	Unlock	
	100.0	1	Level1	
	100.0	2	Lock	

1-15. nvoDevListDesc(27)

Description	Device Information
SNVT Type	SNVT_str_asc: Unsigned Character Array, 31bytes
Value and operation	Refer to Expansion of nvoDevListDesc

()* is used in Turkey.

Indoor unit/ERV/AHU/DVM Chiller/FCU kit object

Expansion of nvoDevListDesc

		desription	character	value
ascii.	[0]	Model information	Alphabet or digit	
	[1]		Alphabet or digit	
	[2]		Alphabet or digit	
	[3]		Alphabet or digit	
	[4]		Alphabet or digit	
	[5]		Alphabet or digit	
	[6]	Separator	Underbar(_)	095
	[7]	Centralized controller address	Alphabet or digit	
	[8]		Alphabet or digit	
	[9]	Separator	Period(.)	046
	[10]	Interface Module address	Alphabet or digit	
	[11]		Alphabet or digit	
	[12]	Separator	Period(.)	046
	[13]	Indoor Unit Address	Alphabet or digit	
	[14]		Alphabet or digit	
	[15]	Separator	Underbar(_)	095
	[16]	Unit type	0: indoor unit, 1: AHU, 2: ERV	
	[17]	Separator	Underbar(_)	095
	[18]	Operation mode	DMS Format 0: Auto, 1: Cool, 2: Dehumid, 3: Fan, 4: Heat, 5: Cool Storage, 6: Hot Water	
	[19]	ON/OFF	0, 1	
	[20]	Fan speed	0, 1, 2, 3, 4, 5	
	[21]	Fan Swing	0, 1	
	[22]	Error	0, 1	
	[23]	Separator	Underbar(_)	095
	[24]	setPoint temperate	Second significant digit	
	[25]		First significant digit	
	[26]		First decimal place	
	[27]	Space temperate(*)	Second significant digit	
	[28]		First significant digit	
	[29]		First decimal place	
	[30]	Null padding	0	048

- (*) If the value is a negative number, it is displayed as sign, 10-digit, single-digit.

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DMS System object

2-1. nvoDigitalOut(3), nviDigitalOut(1)

Description	Digital output status on DMS		
SNVT Type	SNVT_switch: Unsigned/signed Short		
Value and operation		Value	State
	OFF	0.0	0
	ON	100.0	1

2-2. nvoDigitalIn(4)

Description	Digital Input status on DMS		
SNVT Type	SNVT_switch: Unsigned/signed Short		
Value and operation		Value	State
	OFF	0.0	0
	ON	100.0	1

2-3. nvoSystemLock(5)

Description	System lock status of DMS(only monitoring available)		
SNVT Type	SNVT_switch: Unsigned/signed Short		
Value and operation		Value	State
	Unlock	0.0	0
	Lock	100.0	1

2-4. nvoDMSAlarm(6)

Description	DMS Alarm
SNVT Type	SNVT_count: Unsigned Long, 2 bytes
Value and operation	0: Normal 8: Emergency stop 105: Tracing in progress 108: Tracking failed 109: Lon Module ↔ DMS2.5 communication Error 110: Object ID Update

2-5. nvoSystemAlarm(7)

Description	SIM/PIM Communication Error Code
SNVT Type	SNVT_count: Unsigned Long, 2 bytes
Value and operation	SIM/PIM Communication Error Refer to list of Error code

2-6. nviAllOff(2)

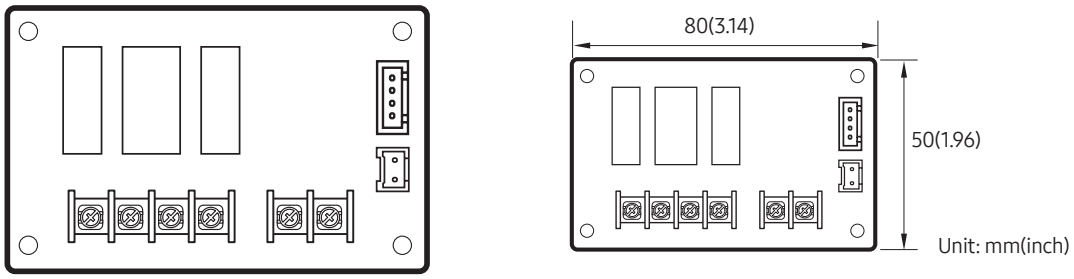
Description	DMS Alarm
SNVT Type	Enumeration, emerg_t
Value and operation	0: EMERG_NORMAL 4: EMERG_SHUTDOWN

()* is used in Turkey.

External Contact Interface Module

MIM-B14

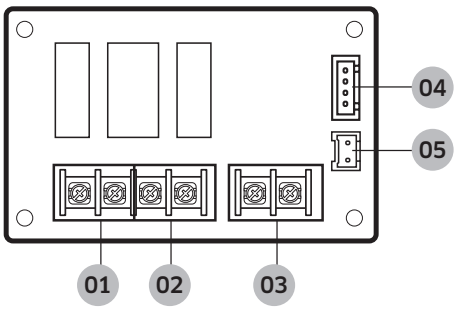
Features



Interlock DVM air-conditioner with external controller

- Indoor unit On/Off control by the external contact (Usable equipment: Card-key, Timer, Sensor)
- Output the indoor unit thermo ON/OFF state and operation status
- Output the indoor unit error state

Description of parts

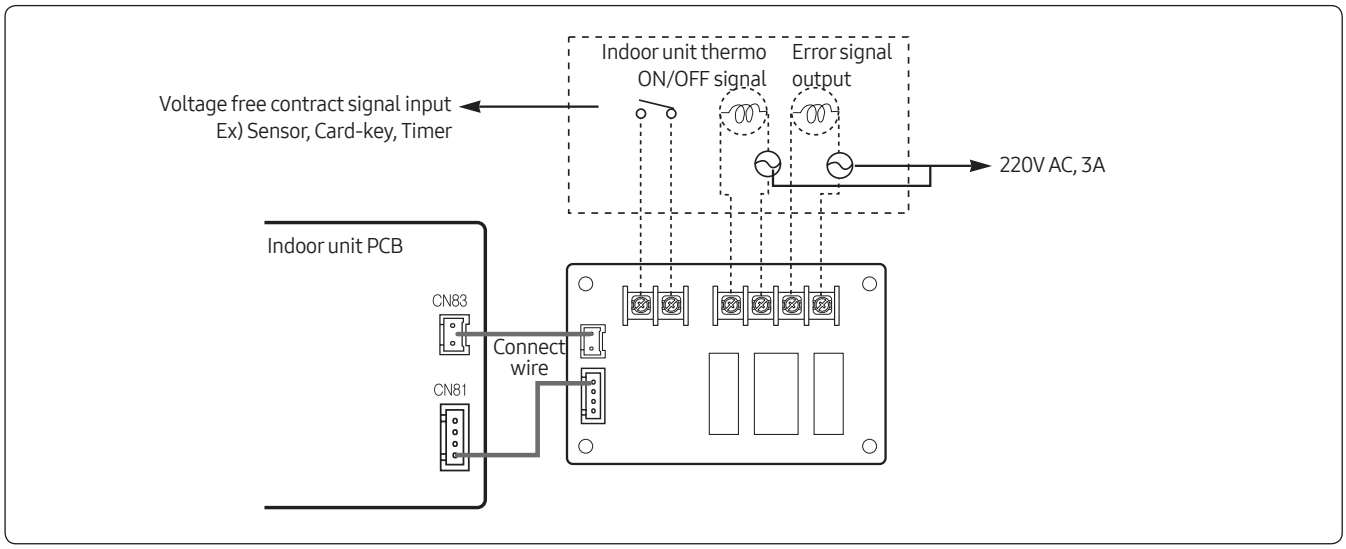


No.	Input/Output	Contact rating	Operation
01	Error state	220V AC, 3A	Normal:Close, Error:Open
02	Indoor unit Thermo On/Off or Operation State output (It depends on indoor unit's INSTALL option setting SEG 15.)	220V AC, 3A	[Output signal] SEG 15 = 0 Thermo On/Off SEG 15 =1 Operation On/Off (On:contact close, Off:contact open)
03	Operation signal input load	5V DC, 5mA	-
04	Connector for indoor unit	-	-
05	Connector for indoor unit	-	-

External Contact Interface Module › MIM-B14

Installation

External contact line wiring

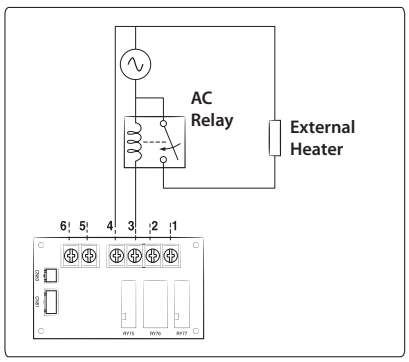


Note

- External operation input load: 5V DC/5mA.
- The length of wiring between MIM-B14 and external control equipment is 100m(328ft) max.
- To use external contact control system, indoor unit's INSTALL option setting is required. (Refer to indoor unit installation manual)
  – SEG14 - External control setting (Default: No use)
- After installed, the first operation will be conducted with Auto mode, Set temp. 24°C(75°F), Auto Fan speed.
- If the indoor unit in OFF status is turned ON through external contact signal; it will operate in the last operation status before it was turned off.

For controlling external heater (On/Off)

Circuit diagram for using external heater for the indoor units without hot water coil terminal

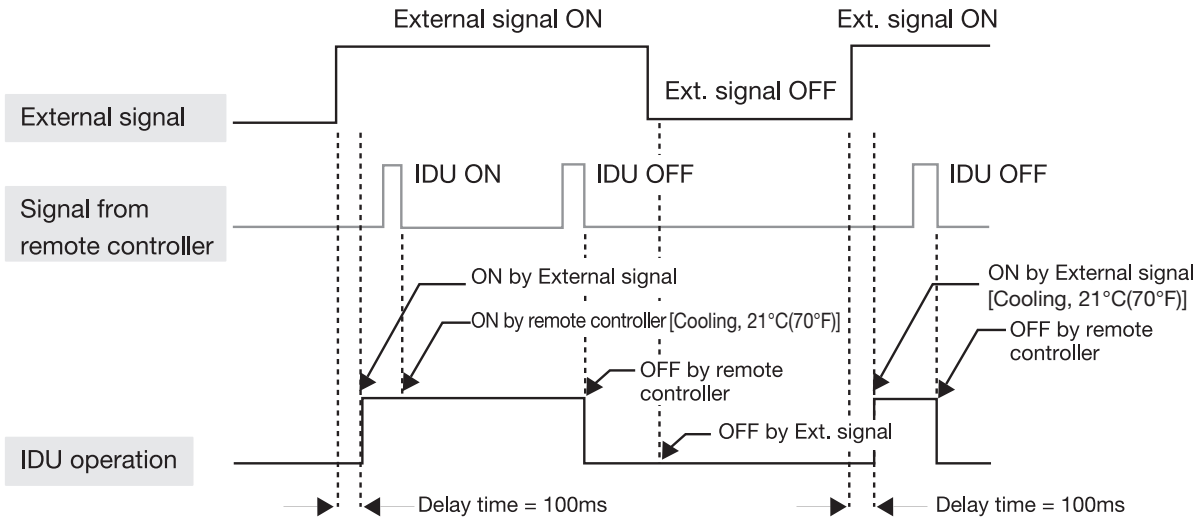


- Detailed method about Installation option establishment refers to Indoor Unit manual. (External contact control setting: Refer to SGE14, SGE15 of 02 Series installation option External heater control setting: Refer to SEG15 of 02 Series Installation Option and SEG18 of 05 Series installation option))
- Dry contact(no power source contact) must be be connected to the input terminal 5,6.
- When MIM-B14 is used for controlling external heater, its contact should not be connected directly to the load.
  (Only use as switch as shown in above diagram.)

Control

Timing diagram for external contact control

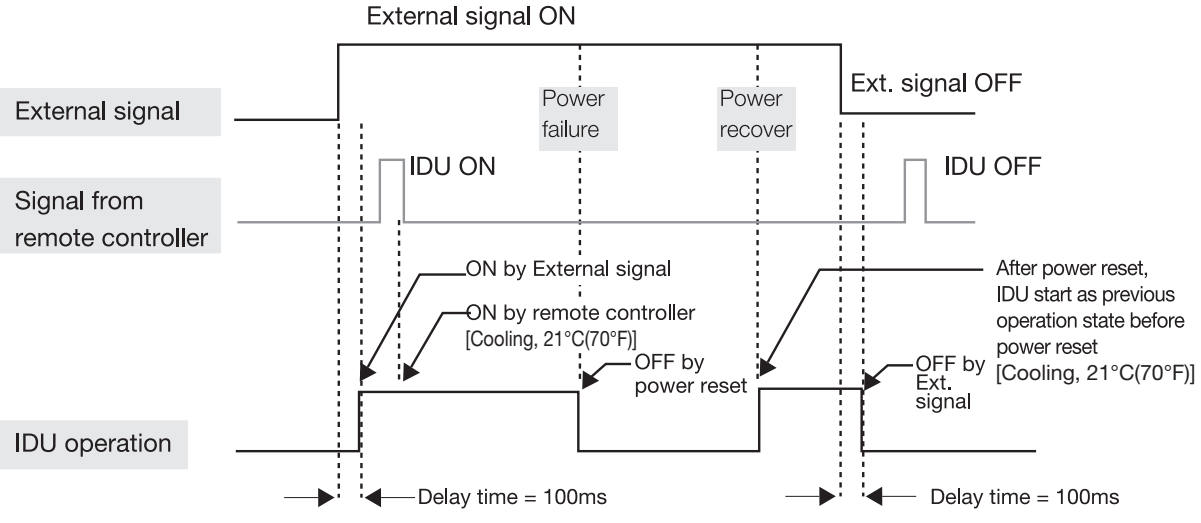
- Ex1)



Note

- IDU stands for Indoor Unit.
  No prioritized operation between the R/C and the external contact I/M.

- Ex2)

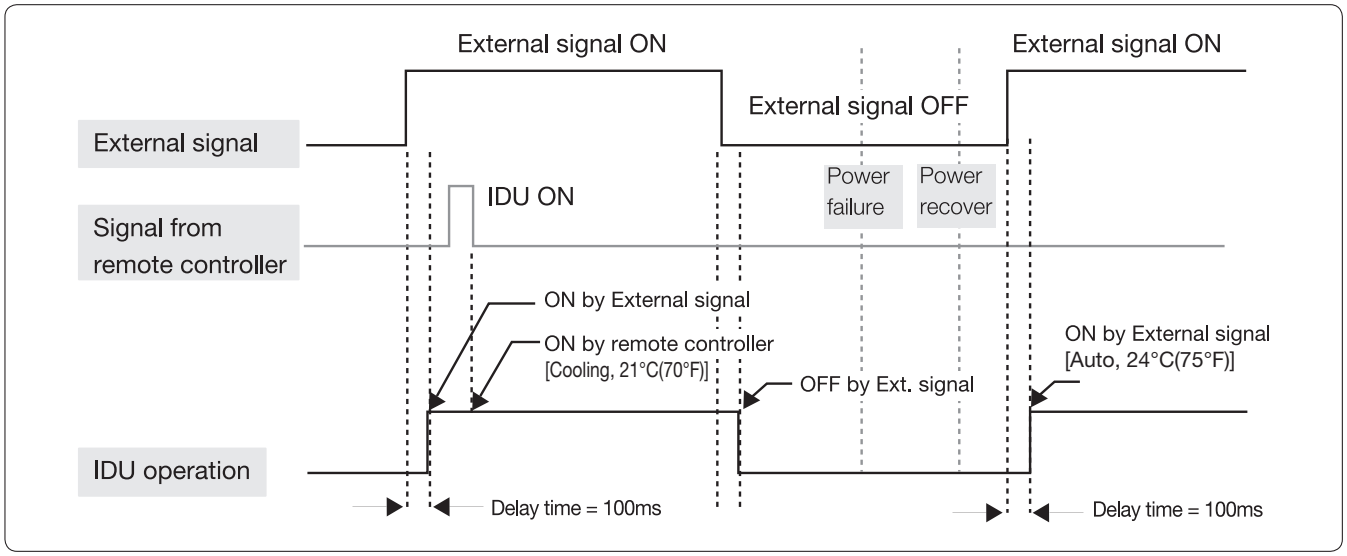


Note

- IDU stands for Indoor Unit.
  After power reset, indoor unit operates as previous state. (IDU has power recovery function)

External Contact Interface Module > MIM-B14

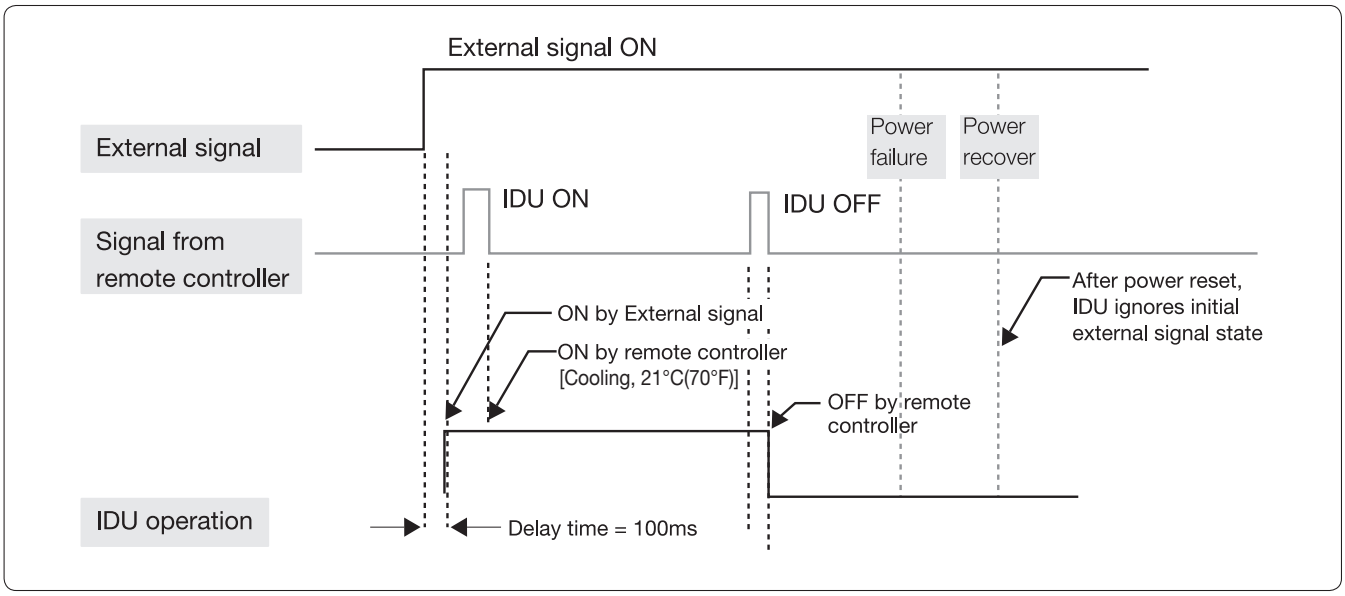
Ex3)



Note

- IDU stands for Indoor Unit.
  After power reset, if IDU is turn ON by external contact, it starts as Auto mode, 24°C(75°F), Auto fan speed.

Ex4)



Note

- IDU stands for Indoor Unit.
  After power reset, IDU ignores initial external signal state.

External Contact Interface Module › MIM-B14

Operation input

It is possible to set the method of indoor unit control by external contact signal.

- Method 1. Turn On/Off the indoor units by external contact signal
- Method 2. Set standby/Turn Off the indoor unit by external contact signal
- Method 3. Return to the last status/Turn Off the indoor unit by external contract signal

	Method 1	Method 2	Method 3
Indoor unit INSTALL option setting (Refer to inidoor unit installation manual)	SEG 14 = 1	SEG 14 = 2	SEG 14 = 3
Indoor unit operation by external contact	Short → Indoor unit On Open → Indoor unit Off	Short → Standby Open → Indoor unit Off	Short → Return to the last status of indoor unit Open → Indoor unit Off
Remote controller use	Short → Available Open → Available	Short → Available Open → Unavailable	Short → Available Open → Unavailable

Operation output

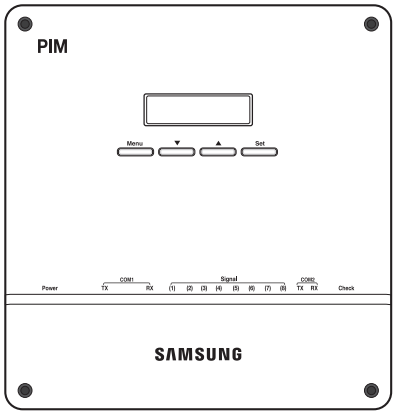
- Thermo off: Status where refrigerant is not flowing in either cooling/heating operation because desired temperature has been reached.

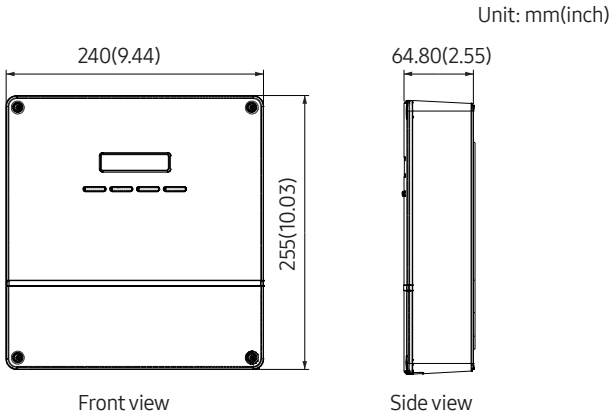
	DVM S series indoor unit	
Output signal	SEG 15 = 0 SEG 15 = 1	Thermo On/Off Operation On/Off
Output signal delay time	None	
Error signal		

PIM (Pulse Interface Module)

MIM-B16N (MIM-B16RN)*

Features





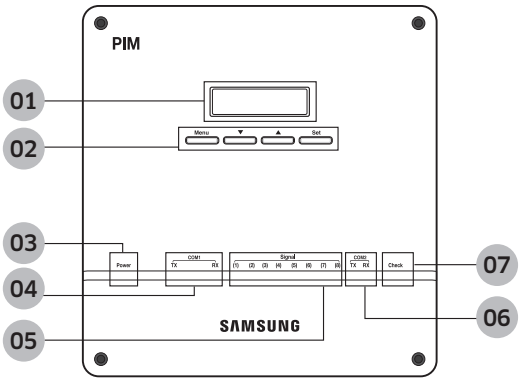
- Pulse output electricity meter interface unit (max. 8 meters)
- 8-channel energy consumption display in real time
- System configuration with button manipulation
- Various text messages in LCD
- Current communication state indication

Power supply (adapter)	Input: 100~240V AC, 50/60Hz, 1.0A Output: 12V DC, 3.0A
Operating temperature range	-10°C ~ 50°C (14°F~122°F)
Operating humidity range	10%RH~90%RH
Maximum wiring length	DMS2.5: 1000m (3280ft) Electricity meter: 200m (656ft)
Number of interfaces	Electricity meter: max. 8 units DMS2.5: 1 unit

()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Display and buttons

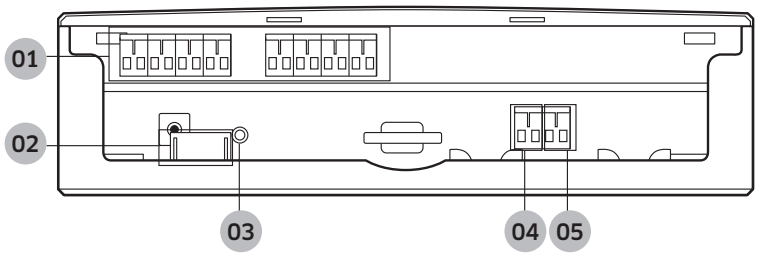


No.	Name	Description
01	LCD window	Information on current electricity readings, settings and operation state is displayed (16 character x 2 line LCD).
02	Menu button	Various menus are selected to monitor current electricity readings, to make configuration settings for electricity meters, and to check the error/settings.
03	Power (blue)	It's ON when power is supplied normally.
04	Communication (orange)	It blinks when communication between DMS2.5 and MIM-B16N normally works.
05	Pulse input (orange)	Each of the 8 LEDs blinks whenever a pulse from an electricity meter is detected.
06	Communication (orange)	Reserved
07	Check	It's ON when errors occur in communication or pulse input from electricity meters.

()* is used in Turkey.

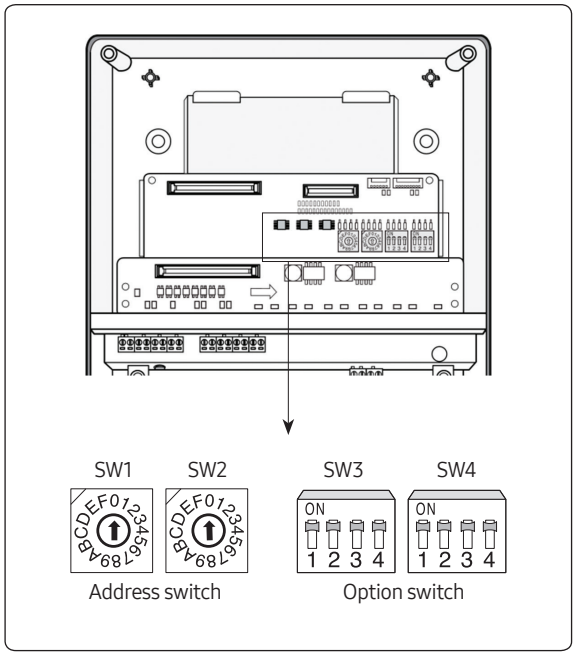
PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Connectors



No.	Name	Description
01	Pulse input terminals	8 terminals are allocated to interface pulse-type electricity meters. Each terminal is seen with a dedicated address on DMS2.5.
02	Power input	Power supply via the power adapter.
03	Reset button	Press the button to reset the MIM-B16N.
04	COM1	Connection terminal for RS485 communication with DMS2.5.
05	COM2	Reserved

Address & option switches



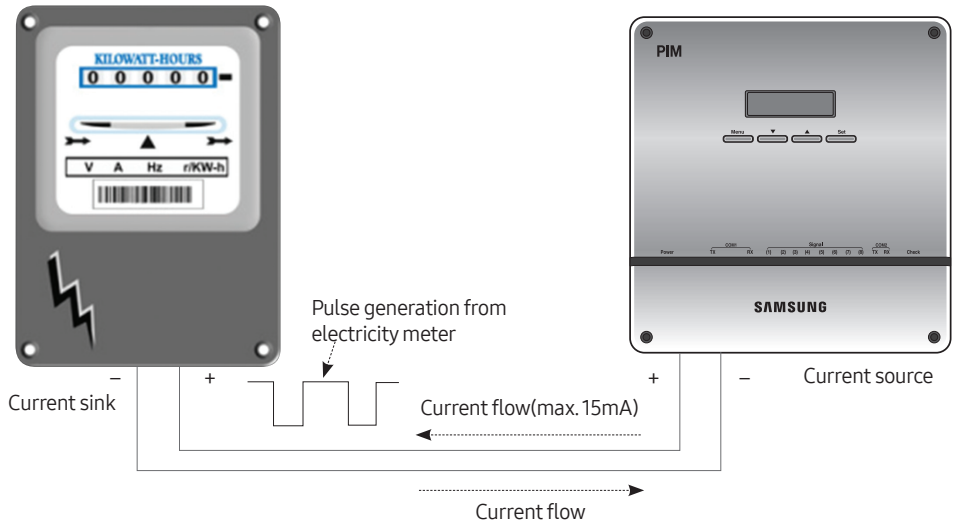
No.	Name	Description
01	SW1	No function
02	SW2	MIM-B16N address switch. Address greater than 7 (8~F) is not recognized.
03	SW3	No function
04	SW4	No function

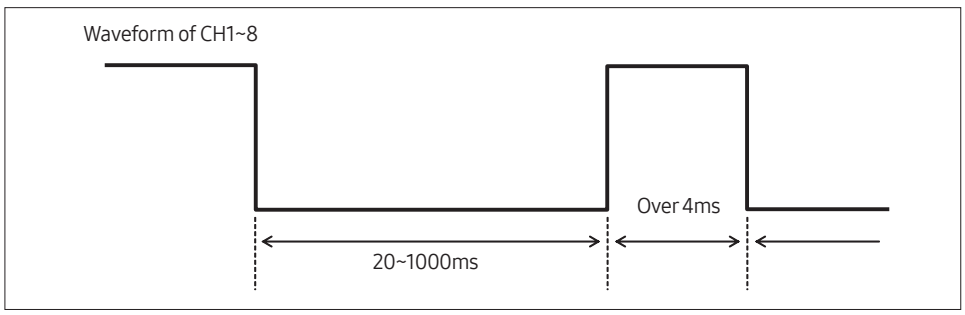
()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Specifications on electricity meter

- Current flow on output: Current-sinking
- Pulse rate :
  - Power meter: 1 ~10000 Wh/pulse (no decimal pulse rate allowed)
  - Gas meter: 0.001~10 m^3/pulse
  - Water meter: 1 ~ 10000 liter/pulse (no decimal pulse rate allowed)
- Pulse width: 20 ~ 1000 ms with +/- 5% tolerance (no decimal pulse rate allowed)
- Time interval between pulses: Min.4ms
- Allowable current sinking: min. 15mA
- Withstanding voltage: min. 15V DC
- Interface circuitry: Electronic isolation circuitry recommended, no voltage output





Note

- Interface circuitry of an electricity meter has to withstand min. 15mA and min. 15V DC, both of which are applied by MIM-B16N.
- Even though MIM-B16N interface circuitry is realized with electric isolation components, it's highly recommended that interface circuitry of an electricity meter be designed with isolation to ensure robustness from contact spike or electric interference during wiring.

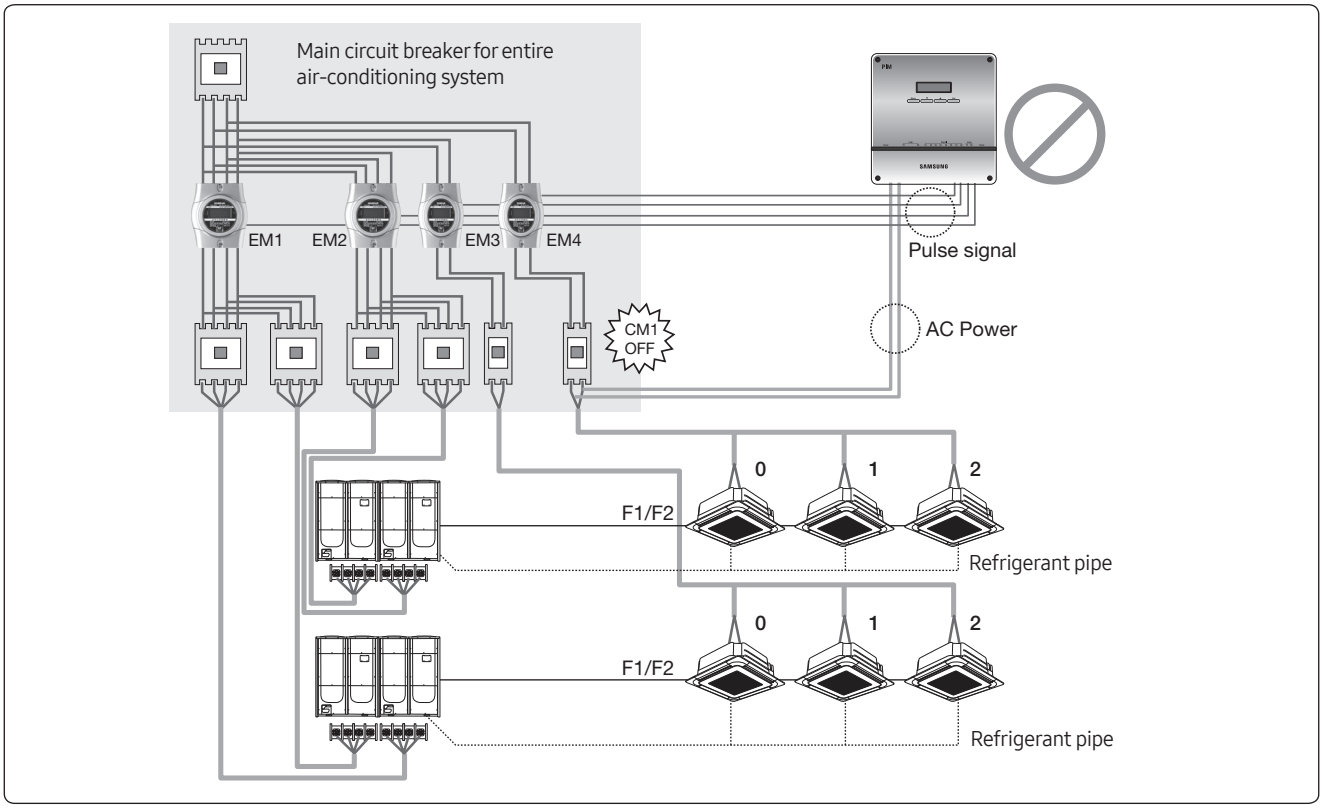
()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Installation

MIM-B16N must not be installed in a way that power to MIM-B16N is off when one of the over-current circuit breakers is switched off. Power supply to MIM-B16N must be off only when all the power supplies to refrigerant systems whose power consumptions are monitored by the MIM-B16N are cut off. This is because every pulse from electricity meters of some alive refrigerant systems must be sensed normally even if power supplies to other refrigerant systems have troubles.

- Example 1)
  When the circuit breaker, CM1 is switched off for some reason while the others are still on, pulses from the electricity meters, EM1, EM2 and EM3 are not calculated by MIM-B16N, whose power is off by the CM1. This installation could lead to errors in electricity billing function when power interruption in local areas occurs.



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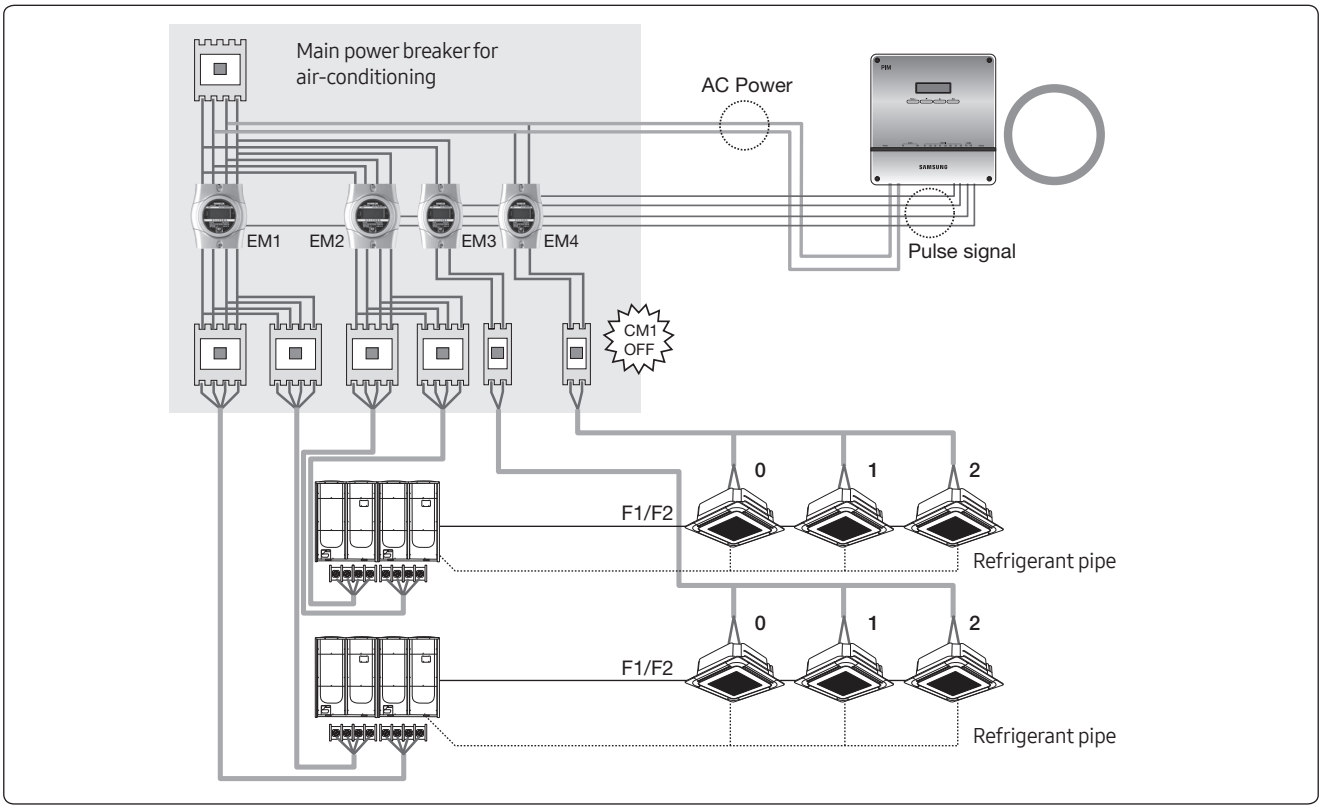
PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

- Example 2)
  Even when the circuit breaker, CM1 is switched off while the others are on, pulses from the electricity meters, EM1, EM2 and EM3 are still calculated by MIM-B16N, whose power is not interrupted by CM1.



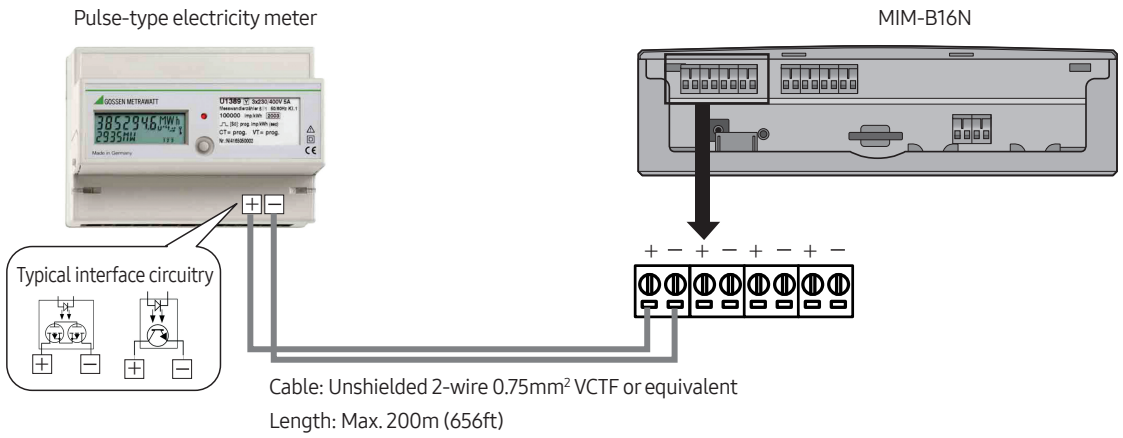
()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Wiring

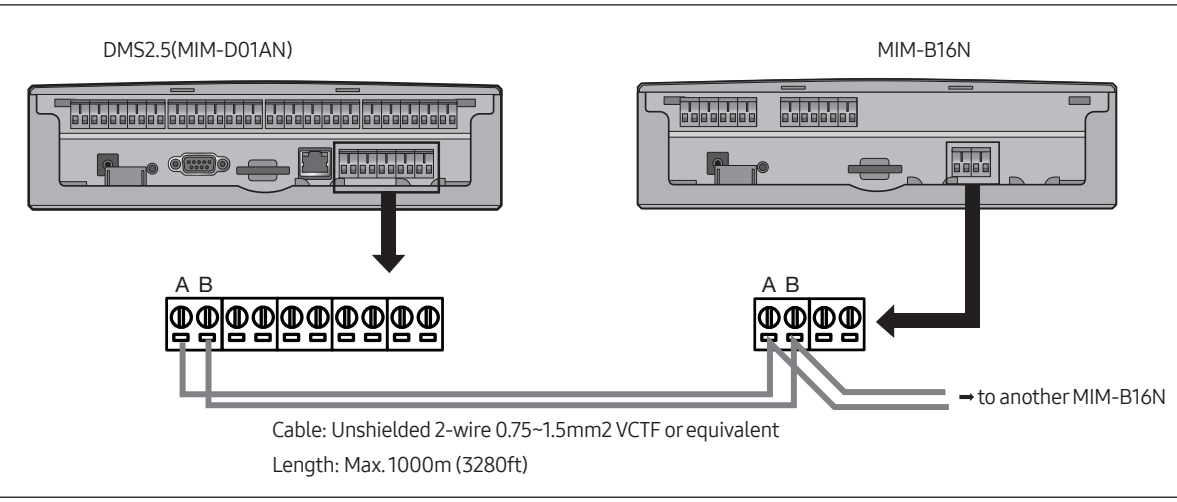
Wiring to electricity meter

Attention must be paid to make polarized connection between an electricity meter and MIM-B16N with correct specifications on wires.



Wiring to DMS2.5

Make sure that communication cable is wired between DMS2.5 and MIM-B16N with the right polarity.



⚠ Caution

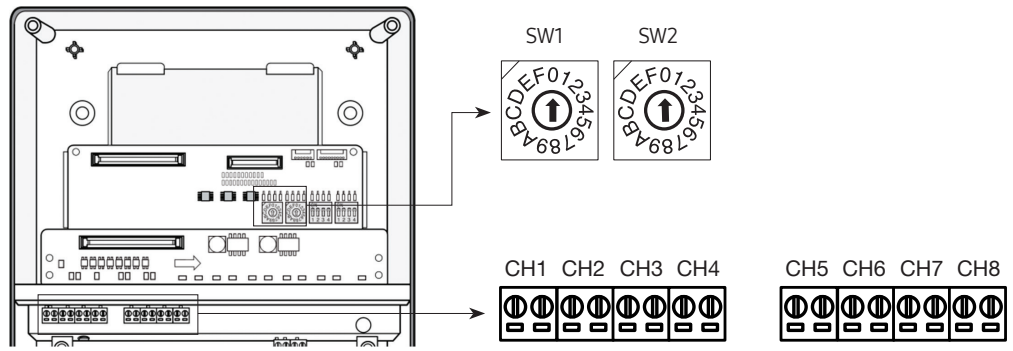
- MIM-B16N can be connected with outdoor units/controllers to same channel of DMS2.5.
  Ex) DMS2.5 CH1: PIM + Outdoor unit (O)/PIM + Touch controller (O)
  – Outdoor unit or Controller should be new communication applied products.

()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Address assignment

Each of the electricity meters is assigned with the dedicated address depending on MIM-B16N address setting and the position of the pulse input terminals.



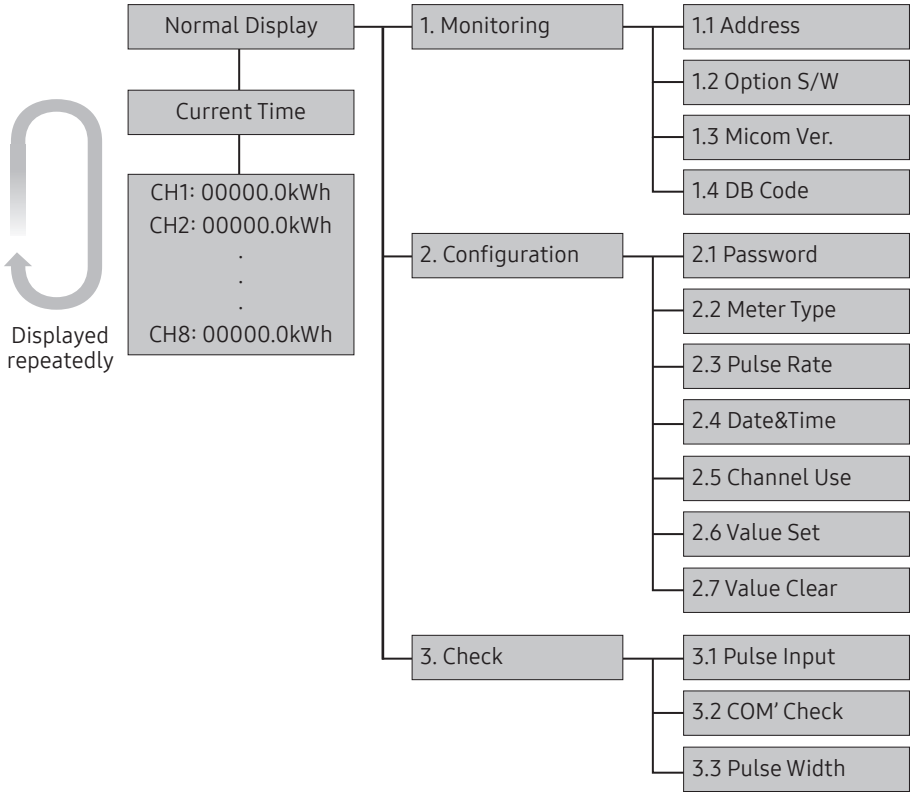
Electricity meter address assignment table

SW2	Pulse input terminal							
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
0	16.01	16.02	16.03	16.04	16.05	16.06	16.07	16.08
1	17.01	17.02	17.03	17.04	17.05	17.06	17.07	17.08
2	18.01	18.02	18.03	18.04	18.05	18.06	18.07	18.08
3	19.01	19.02	19.03	19.04	19.05	19.06	19.07	19.08
4	20.01	20.02	20.03	20.04	20.05	20.06	20.07	20.08
5	21.01	21.02	21.03	21.04	21.05	21.06	21.07	21.08
6	22.01	22.02	22.03	22.04	22.05	22.06	22.07	22.08
7	23.01	23.02	23.03	23.04	23.05	23.06	23.07	23.08
8~15	Not recognized							

()* is used in Turkey.

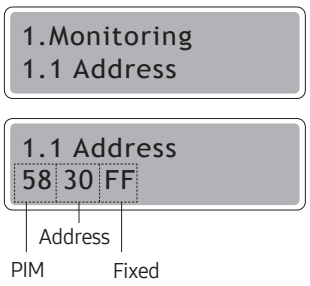
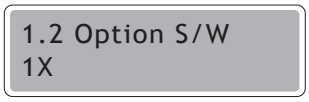
PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

MIM-B16N menu structure



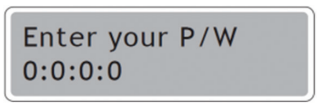
()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

<table>
<tr><th>Main menu</th><th>Sub menu</th><th>Description</th></tr>
<tr><td rowspan="4">Monitoring</td><td>PIM Address</td><td>The MIM-B16N address is displayed with the physical address SW2 added by 30H on the LCD window.
Ex)
<table>
<tr><th>LCD</th><th>SW2 setting</th></tr>
<tr><td>30H</td><td>0</td></tr>
<tr><td>31H</td><td>1</td></tr>
<tr><td>...</td><td>...</td></tr>
<tr><td>37H</td><td>7</td></tr>
</table>

</td></tr>
<tr><td>Option SW</td><td>Option switch setting to ON is displayed with the position number at the corresponding positions while setting to OFF is shown with the mark 'X'.
Ex)


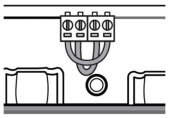
Example display: 1X
• Option switch 1: On
• Option switch 2: Off</td></tr>
<tr><td>Micom version</td><td>It displays PIM software version.
Ex)

</td></tr>
<tr><td>DB Code</td><td>It displays PIM software DB code.
Ex)

</td></tr>
<tr><td rowspan="5">Configuration</td><td>Password</td><td>The password, which is asked to enter to change the configuration setting, is used to prevent unauthorized persons from accessing MIM-B16N. Factory setting is '0000'.
Ex)

</td></tr>
<tr><td>Meter type</td><td>You can select each channel's meter type.
• Default value: Power Meter
• Type: Power Meter, Gas meter, Water Meter</td></tr>
<tr><td>Pulse Width</td><td>You can set pulse rate of meter which connected to each channel. [Range]
Power meter: 1 ~10000 Wh/pulse (No decimal pulse rate allowed)
Gas meter: 0.001~10 m^3/pulse
Water meter: 1 ~ 10000 liter/pulse (No decimal pulse rate allowed)</td></tr>
<tr><td>Date & time</td><td>You can set current date and time.</td></tr>
<tr><td>Channel use</td><td>You can set Enable/Disable state of each channel.
If you set "Disable", then PIM doesn't display meter value of the disabled channel.</td></tr>
</table>

()* is used in Turkey.

PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Main menu	Sub menu	Description
Configuration	Value set	Initial meter value must be set as a starting point for each of the enabled interface channels.
	Value clear	Each or all the initial meter values are cleared when selected.
Check	Pulse Input	When pulse input is detected during the test period, the channel numbers are displayed. Otherwise, the character 'X' is displayed on the corresponding channel position. All Check End X2XX5X7X
	COM Check	Make a loopback connection between COM1 and COM2 to check if the DMS2.5 communication channel is working or not. Care must be taken for the connection polarity.  When the COM1 communication channel is normal, the message 'OK' is displayed on the LCD window.
	Pulse Width	It checks if the pulse width values of actually connected meter are valid or not. • OK: When the pulse is valid (pulse is valid when high pulse is between 20 ~ 1000msec), OK (M:####msec) will be displayed. #### represents the duration of the high pulse. • NG: When the pulse is invalid (pulse is valid when high pulse is between 20 ~1000msec), or when there is no pulse inputs for 10 seconds), NG (M: 0000msec) will be displayed. – PIM does not calculate the energy consumption during the checking process. The calculation will start after the check and returning to the upper menu. 3.3 Pulse Width CH1 Check OK CH1 Check Start Checking... CH1 Check End NG (M:0000msec)

()* is used in Turkey.

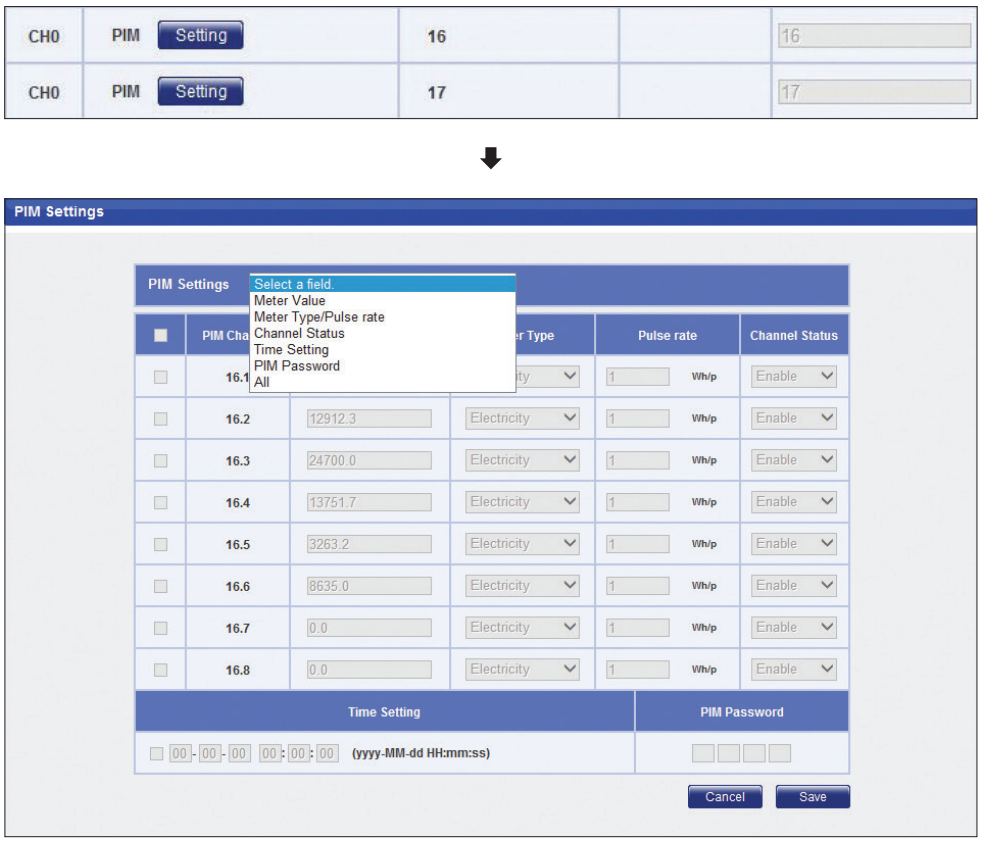
PIM (Pulse Interface Module) > MIM-B16N (MIM-B16RN)*

Setting parameters on DMS2.5 (MIM-D01AN)

The following parameters for MIM-B16N can be also set and monitored on DMS2.5 (MIM-D01AN)

- Meter value, Meter type/pulse rate, Channel status, Time setting, PIM password

[Tracking result page --> PIM "Setting"]



Note

- DMS2.5 setting for MIM-B16N parameters

Error code

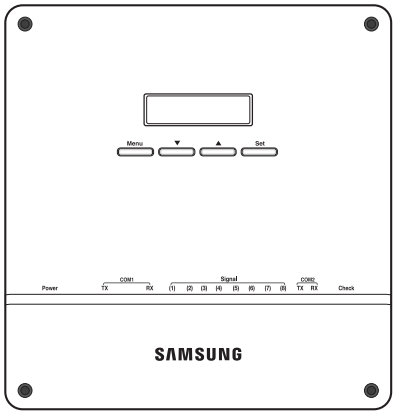
Error code	Description
E613	Error which occurs when there is no communication between DMS and PIM/SIM for 15 minutes.
E632	• Error which occurs when the pulse was input differently from the PIM setting. • (If the pulse was inputted at the value outside of 10 ms ~ 1500 ms range for more than 15 times or when high pulse was inputted for over 3 minutes)
E654	Memory Read/Write error.
E108	Error which occurs when same address was assigned to different devices.

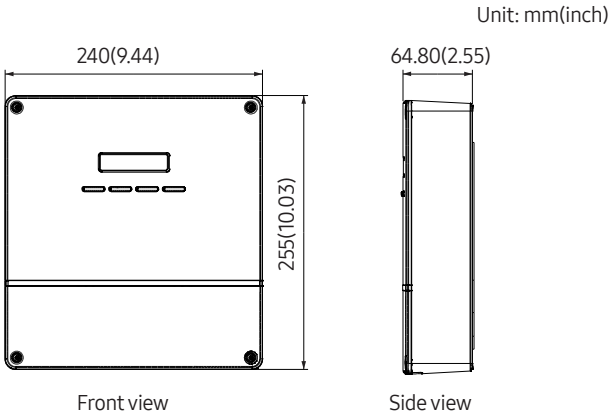
()* is used in Turkey.

SIM (Signal Interface Module)

MIM-B12RN (Turkey only)

Features



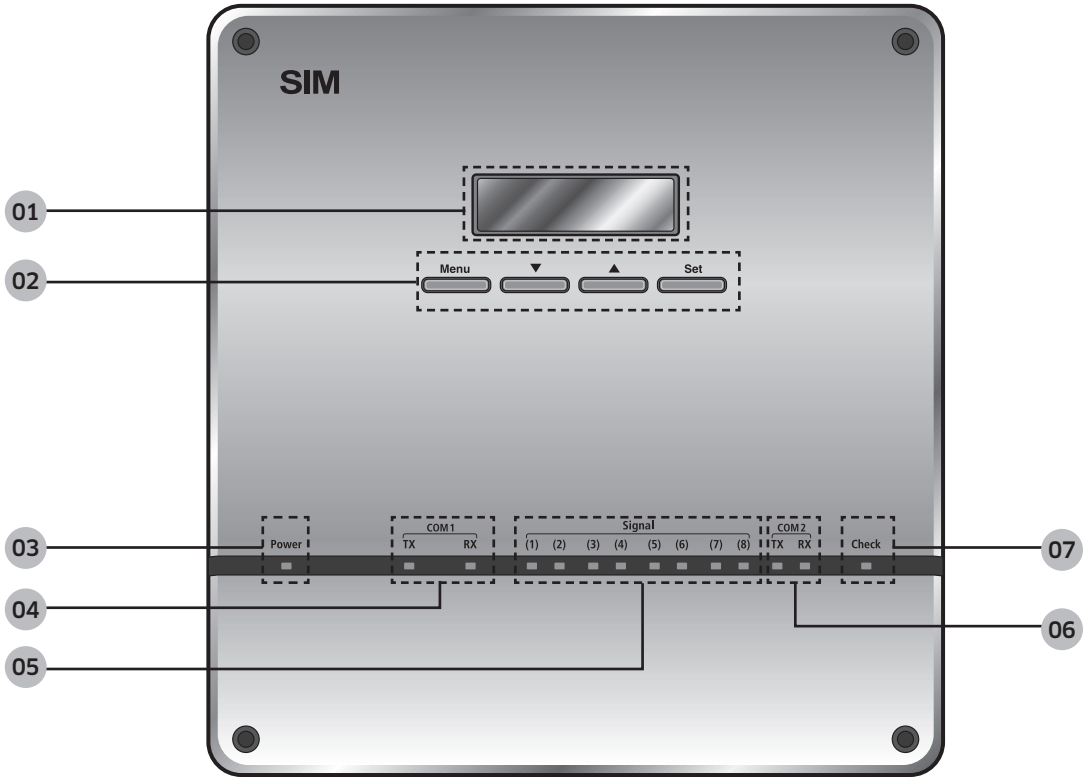


- RS485 communication Watt-hour meter interface unit (max. 8 meters)
- 8-channel energy consumption display in real time
- System configuration with button manipulation
- Various text messages in LCD
- Current communication state indication

Power supply (adapter)	Input: 100~240V AC, 50/60Hz, 1.0A Output: 12V DC, 3.0A
Operating temperature range	-10°C ~ 50°C (14°F~122°F)
Operating humidity range	10%RH~90%RH
Maximum wiring length	DMS2.5: 1000m (3280ft) Watt-hour meter: 200m (656ft)
Number of interfaces	Watt-hour meter: max. 8 units DMS2.5: 1 unit

SIM (Signal Interface Module) > MIM-B12RN (Turkey only)

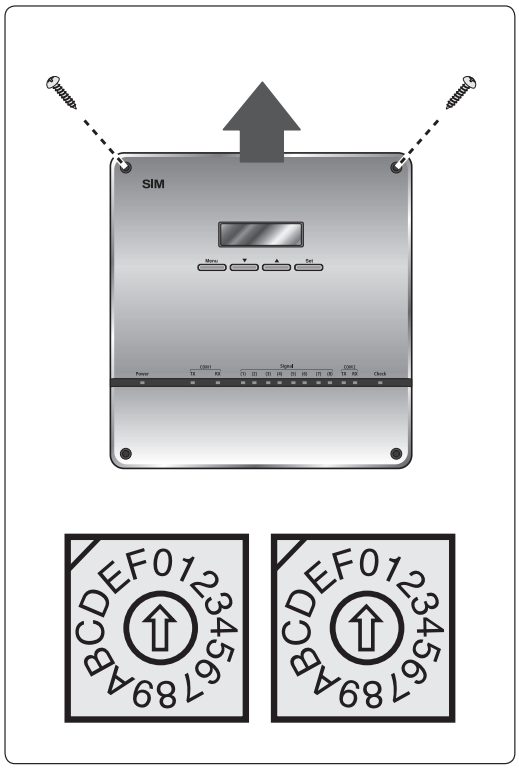
Display and buttons



No.	Name	Description
01	LCD window	Shows current time and power consumption by channel. Various menus will be displayed depending on button input.
02	Menu button	There are 4 buttons [Menu, ▼(Down), ▲(Up), Set] and you can access, move and check the menu.
03	Power (blue)	Power indicator. It turns blue when the power is supplied.
04	Communication (orange)	Data transmission/reception indicator for DMS. It blinks in orange during the normal transmission/reception.
05	Communication (orange)	Data transmission/reception indicator for Watt-hour Meter. It blinks in orange during the normal transmission/reception.
06	Communication (orange)	Reserved.
07	Check	Error indicator. It blinks in orange when the error occurs. (It will be off when the error is cleared.)

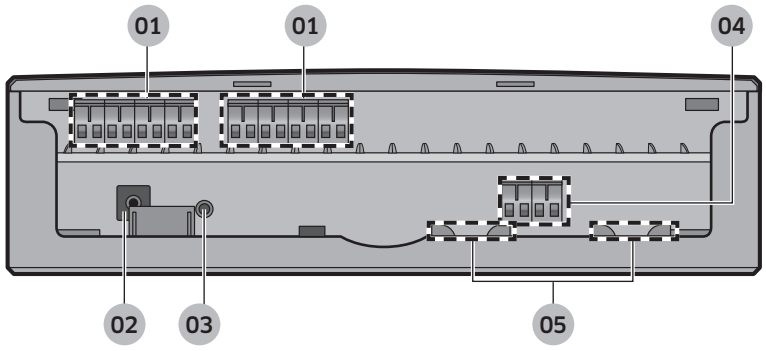
SIM (Signal Interface Module) > MIM-B12RN (Turkey only)

Address & option switches



Rotary Switch #1	Communication Address	Rotary Switch #2	Communication Address	DMS Address
0	N/A	0	30H	16
1	N/A	1	31H	17
2	N/A	2	32H	18
3	N/A	3	33H	19
4	N/A	4	34H	20
5	N/A	5	35H	21
6	N/A	6	36H	22
7	N/A	7	37H	23
8	N/A	8	38H	• The SIM communication addresses on the left side (8~F) are assigned for system extension in the future. Therefore, do not set the addresses as they will not be recognized with a DMS.
9	N/A	9	39H	
A	N/A	A	3AH	
B	N/A	B	3BH	
C	N/A	C	3CH	
D	N/A	D	3DH	
E	N/A	E	3EH	
F	N/A	F	3FH	

SIM Cable Connection Part



No.	Name	Description
01	Communication terminal (CH1~CH8)	RS485 communication terminal with watt-hour meter
02	Power terminal	Terminal to connect SIM adapter
03	Reset button	Button used to reset SIM
04	RS485 Communication terminal (COM1)	Connection terminal for RS485 communication with DMS2.5 ※ COM2: Reserved
05	Cable groove	Groove for arranging cables

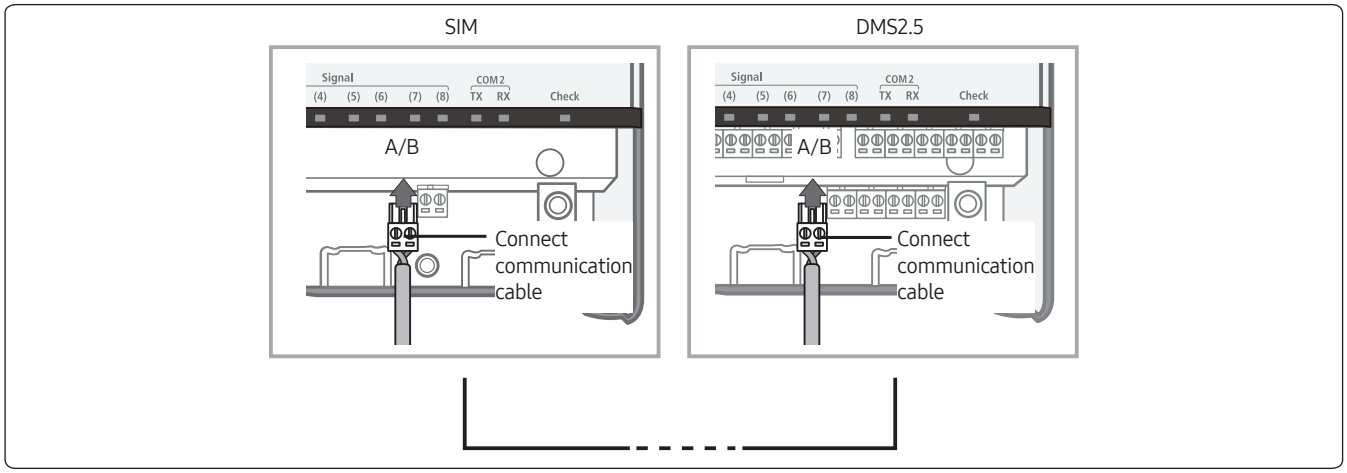
SIM (Signal Interface Module) > MIM-B12RN (Turkey only)

Connection

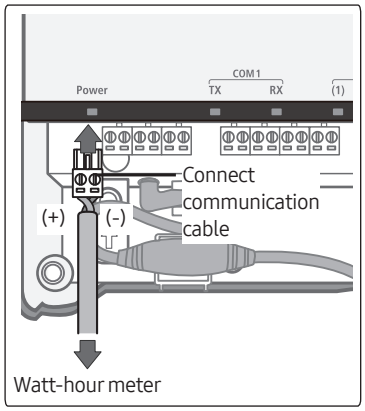
Connecting SIM to DMS2.5

Connect 'COM1' terminal of SIM and DMS2.5 terminal block with communication cable.

- Pay special attention about the polarity when connecting RS485 communication.
  (A of SIM ↔ A of DMS2.5, B of SIM ↔ B of DMS2.5)



Connecting Watt-Hour meter and SIM



For the communication cable connection instruction of watt-hour meter or additional setting instruction, refer to the installation manual of watt-hour meter.

Connect the communication cable considering the polarity. [Left:(+), Right:(-)]

Connecting Watt-Hour meter and SIM

Supporting company	Bit rate	Data Bit	Stop Bit	Parity	Remarks
MAKEL	300 bps 9600 bps	7	1	EVEN	Bit rate depends on communication phase

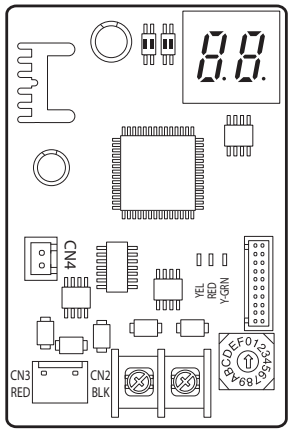
Error code

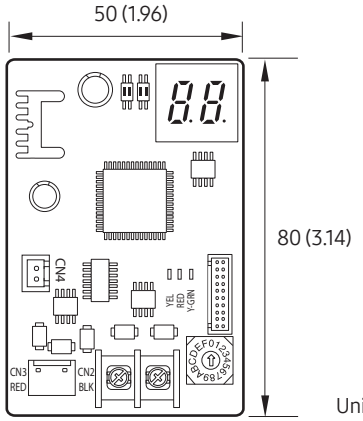
Display	Explanation
E613	Error which occurs when there is no communication between DMS and SIM for 15 minutes.
E614	Communication error between the watt-hour meter and SIM for 3 minutes.
E654	Memory Read/Write error.
E108	Error which occurs when same address was assigned to different devices.

Interface module

MIM-N01

Features





Unit: mm(inch)

- Communication interface module between outdoor units and the upper level controller which has different communication type
- Connect 1 interface module to 1 outdoor unit
- Individual control - Maximum 48 indoor units
- Group control - Maximum 16 groups
- Detecting communication type automatically: Judge the communication type of upper level controller according to communication type of the outdoor unit
- Supported communication type
  - Conventional communication outdoor unit ↔ New communication upper level controller
  - New communication outdoor unit ↔ Conventional communication upper level controller

⚠ Caution

- This interface module does not support connection between Conventional communication outdoor unit ↔ Conventional communication upper level controller/New communication outdoor unit ↔ New communication upper level controller

Product specification

Power Supply	DC 12V
Power Consumption	2.4 W
Operating Temperature range	-10 °C~50 °C (14°F~122°F)
Operating Humidity range	10%RH~90%RH
Communication	RS485 x 2
Max.Communication Length	1000 M (3280 ft)
Maximum number of connection	1. New communication outdoor unit ↔ Conventional communication upper level controller F1/F2: 1 outdoor unit R1/R2: 1 upper level controller 2. Conventional communication outdoor unit ↔ New communication upper level controller F1/F2: 1 outdoor unit R1/R2: Total up to 16 upper level controllers (Only 1 DMS 2.5, BACnet/LonWorks Gateway connection is allowed)

Interface module › MIM-N01

Compatible Models

New communication outdoor unit ↔ Conventional communication upper level controller

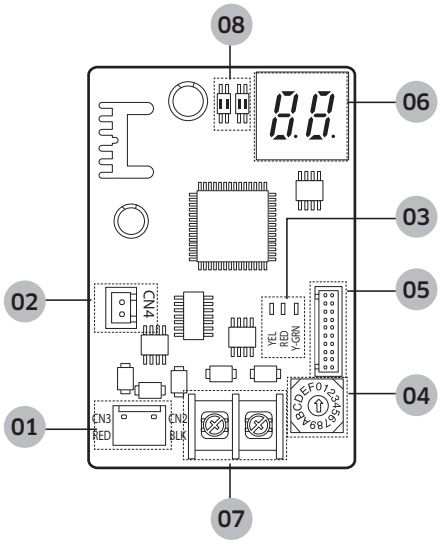
Outdoor unit	AM✳✳✳✳X✳✳✳✳✳✳
Upper level controller	**1** OnOff controller: MCM-A202D **2** DMS2: MIM-D00A **3** BACnet Gateway: MIM-B17 **4** LonWorks Gateway: MM-B18 **5** S-NET mini: MST-S3W

- Function controller and S-NET 2 Plus are not supported.
  - New communication Outdoor unit + MIM-N01 + MCM-A202D + Function controller (X)
  - New communication Outdoor unit+ MIM-N01 + MCM-A202D + S-NET 2 Plus (X)

Conventional communication outdoor unit ↔ New communication upper level controller

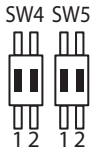
Outdoor unit	DVM Plus 4, 3, 2, CAC, FJM
Upper level controller	**1** OnOff Controller: MCM-A202DN **2** DMS2.5: MIM-D01AN **3** BACnet gateway: MIM-B17BN **4** LonWorks gateway: MIM-B18BN **5** Touch centralized controller: MCM-A300N **6** Wi-Fi kit : MIM-H03N

Description of parts



No.	Name	Description
01	F1/F2 communication connector	Communication connector that connects to outdoor unit/F1/F2
02	Power connector	DC 12V

Interface module › MIM-N01

<table>
<tr><th>No.</th><th>Name</th><th>Description</th></tr>
<tr><td>03</td><td>Communication LED</td><td>Communication indicator LED
• Left LED 3: No function
• Middle LED 1: Blinks during it communicates with upper level controller
• Right LED 2: Blinks during it communicates with outdoor unit and indoor unit</td></tr>
<tr><td>04</td><td>Address setting switch</td><td>Sets the address of interface module</td></tr>
<tr><td>05</td><td>Software update connector</td><td>Using this connector, Interface module software can be updated</td></tr>
<tr><td>06</td><td>7-segment</td><td>Displays the communication status between interface module and outdoor unit</td></tr>
<tr><td>07</td><td>Upper level controller communication channel</td><td>Communication connection channel to upper level controller R1/R2</td></tr>
<tr><td>08</td><td>DIP switch</td><td> 

<table>
<tr><th>SW4</th><th>Description</th></tr>
<tr><td>1</td><td>OFF (Automatic address setting, switch must be down)
ON (Manual address setting, switch must be up)
• This function is only applicable when new communication upper level controller is connected.</td></tr>
<tr><td>2</td><td>OFF (Set temperature in Celsius, switch must be down)
ON (Set temperature in Fahrenheit, switch must be up)</td></tr>
<tr><th>SW5</th><th>Description</th></tr>
<tr><td>1</td><td>OFF (Disable downloading, switch must be down)
ON (Enable downloading, switch must be up)
• Switch must be set to OFF when downloading is complete.</td></tr>
<tr><td>2</td><td>No function</td></tr>
</table></td></tr>
</table>

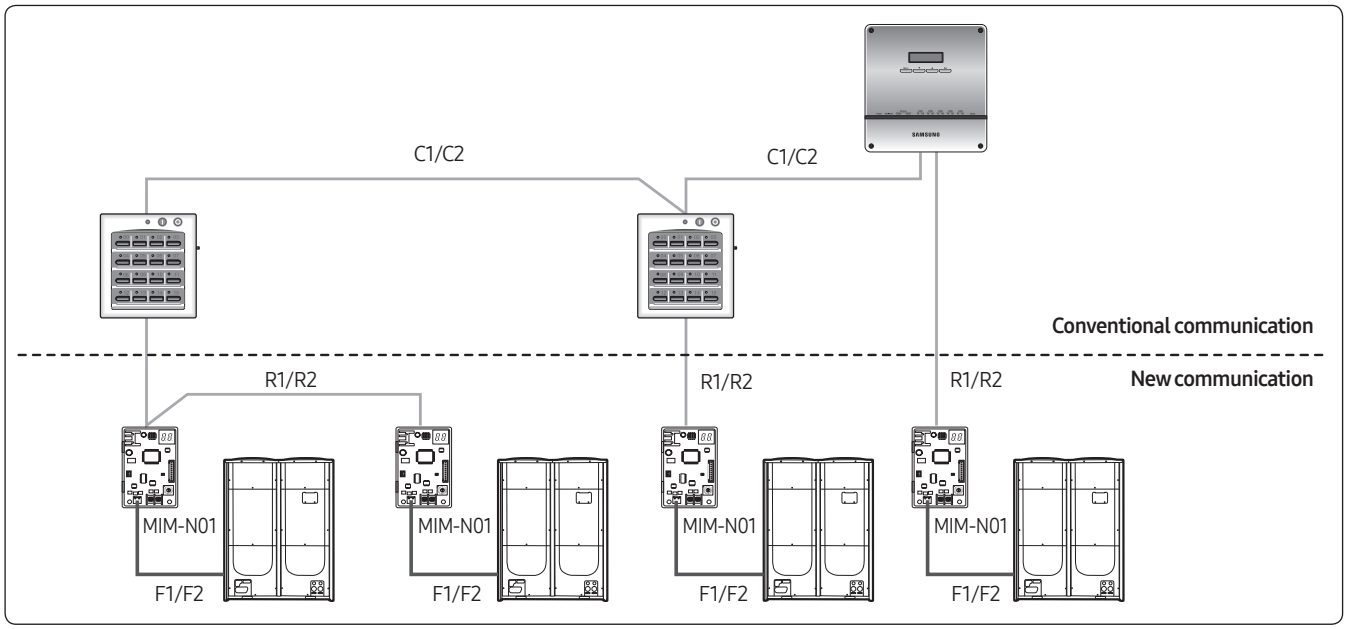
Note

- When connecting to the conventional communication controller, address must be set manually regardless to the SW4-1 setting. When setting the address manually, make sure to set the address that is not assigned to other deivce already.
- When connecting to the new communication controller, SW4-1 must be ON to set the address manually, and make sure to set the address that is not assigned to other compatible interface module or outdoor units.

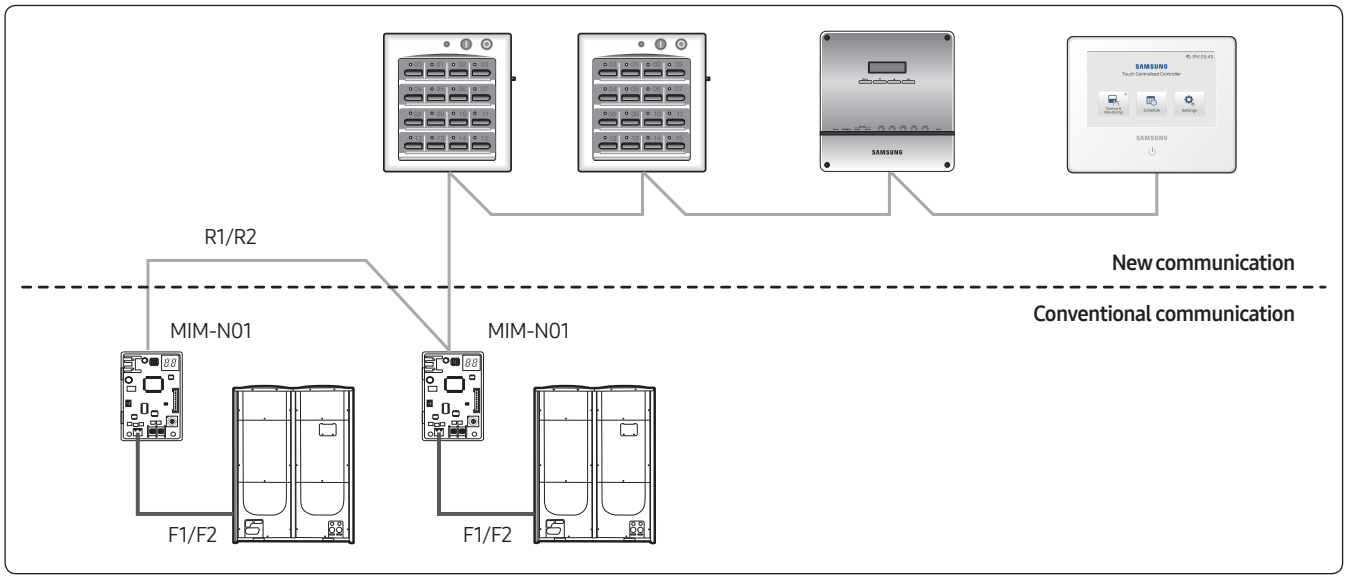
Interface module › MIM-N01

Connection diagram

New communication outdoor unit ↔ Conventional communication upper level controller



Conventional communication outdoor unit ↔ New communication upper level controller

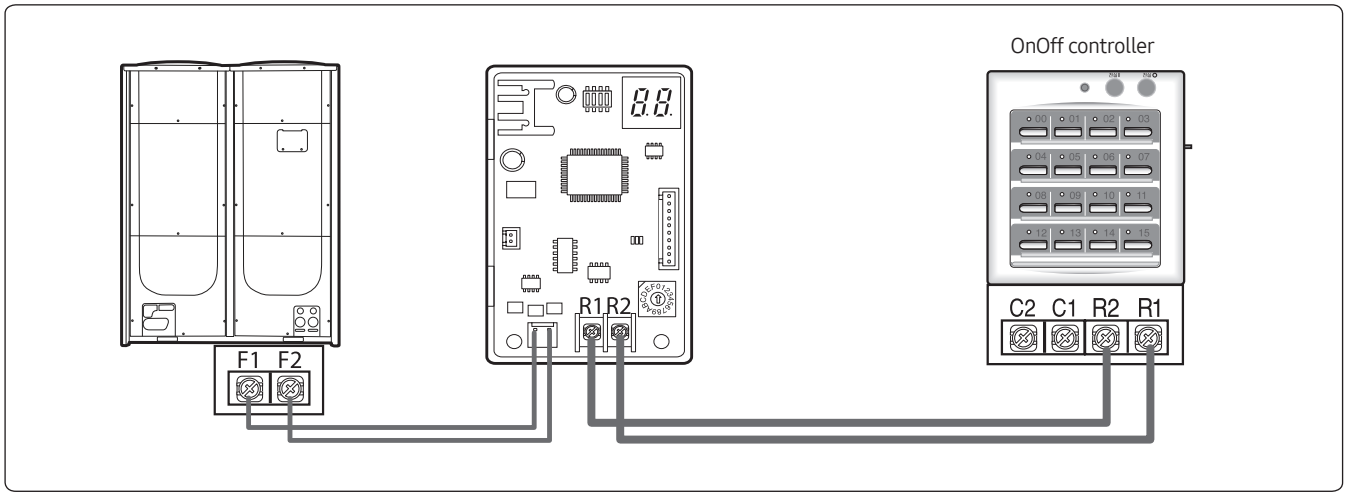


Interface module › MIM-N01

Connection

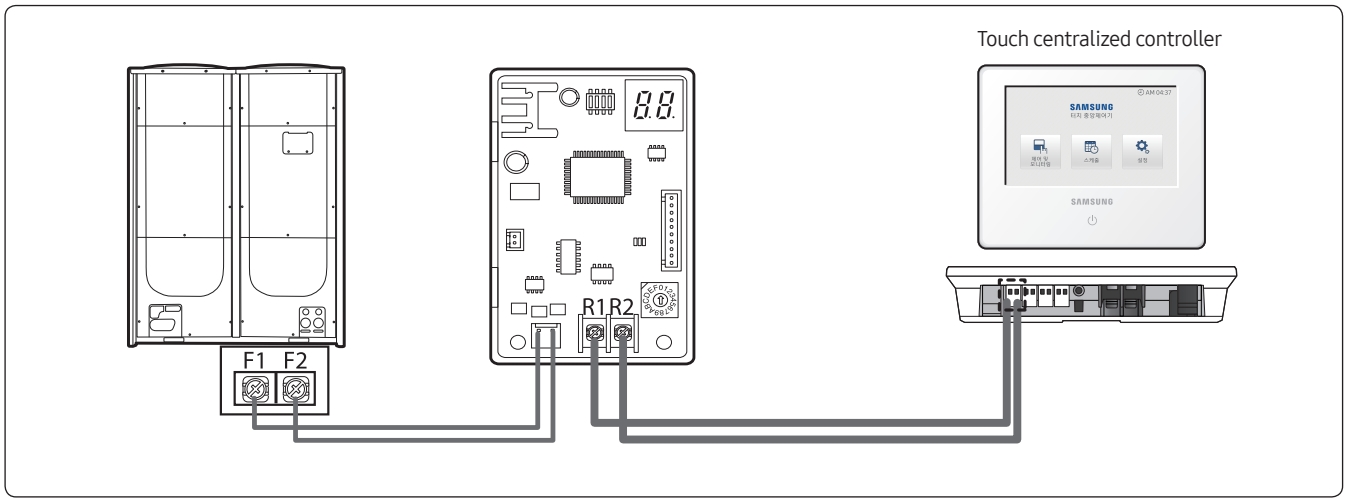
Connecting with OnOff controller

- Conventional communication outdoor unit ↔ New communication OnOff controller (MCM-A202DN)
- New communication outdoor unit ↔ Conventional communication OnOff controller (MCM-A202D)



Connecting to Touch centralized controller

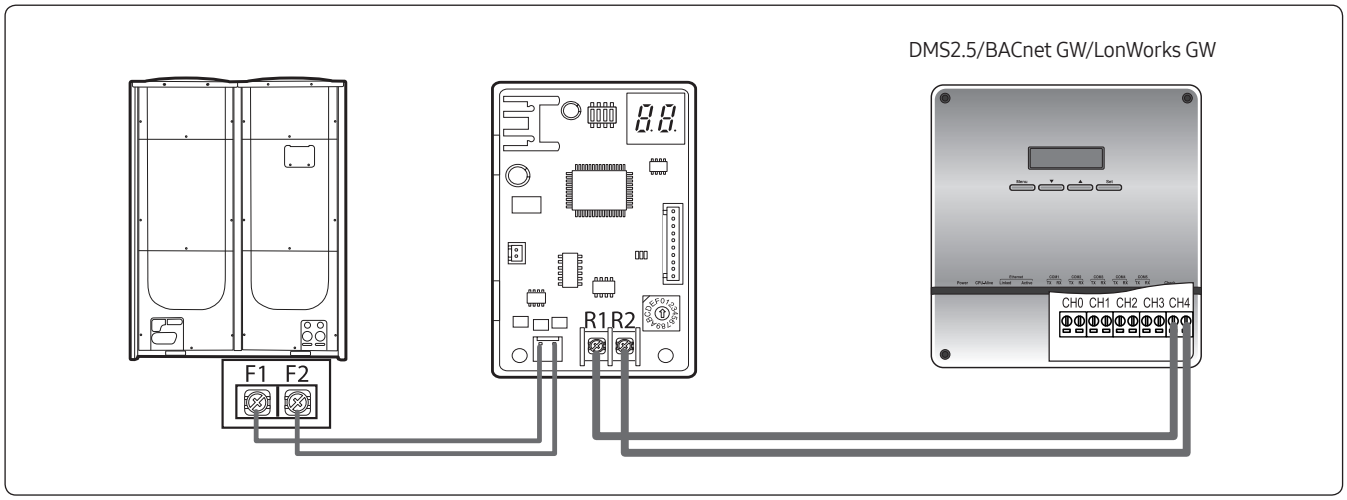
- Conventional communication outdoor unit ↔ New communication Touch centralized controller (ACM-A300N)



Interface module › MIM-N01

Connecting to DMS 2/BACnet GW/LonWorks GW

- Conventional communication outdoor unit ↔
  New communication DMS2.5 (MIM-D01AN)/BACnet GW (MIM-B17BN)/LonWorks GW (MIM-B18BN)
- New communication outdoor unit ↔
  Conventional communication DMS2 (MIM-D00A)/BACnet GW (MIM-B17)/LonWorks GW (MIM-B18)



Note

- When connecting AM✳✳✳✳X✳✳✳✳✳✳ outdoor unit and new communication controller, you don't have to connect them with MIM-N01.
- When connecting Conventional communication outdoor unit and controller (ex. MCM-A202D), MIM-B13D or MIM-B13E must be used.

Display

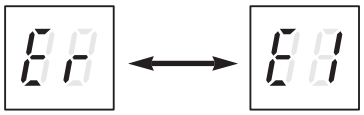
Checking the operation

Software version is displayed after power is supplied → Display the set value of the rotary switch → Display the address of the interface module → Outdoor unit detected during tracking ↔ Tracking completed

Displays the Main address of the communicating indoor units alternately
[Displays the indoor unit that is set as (centralized control)]

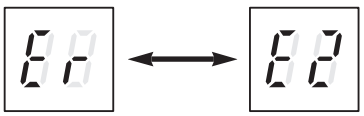
Error display

- Communication error between outdoor unit and the interface module



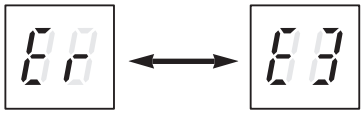
※ FF will be displayed to the indoor unit that has lost communication during normal communication.

- Communication error between upper level controller and the interface module after tracking has been completed



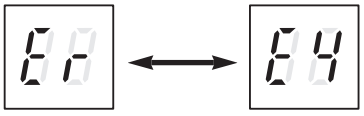
※ When E1, E2 occurs at the same time, only E1 will be displayed.

- Interface module tracking failure

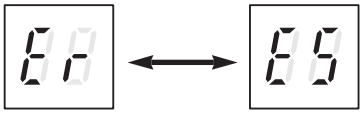


  - Communication error between conventional communication outdoor unit ↔ New communication upper level controller after tracking has been completed
    - It will be displayed after failing 80 times of communication trial after interface module has started tracking (approximately 3 minutes)
  - Communication error between New communication outdoor unit ↔ Conventional communication upper level controller after tracking has been completed
    - It will be displayed after failing the tracking process over10 minutes from the interface module has started tracking.

- When problem occurs on EEPROM



- When same address was assigned to more than one interface module
  (Only detected when new communication upper level controller is connected to conventional communication outdoor unit)



Interface module > MIM-N01

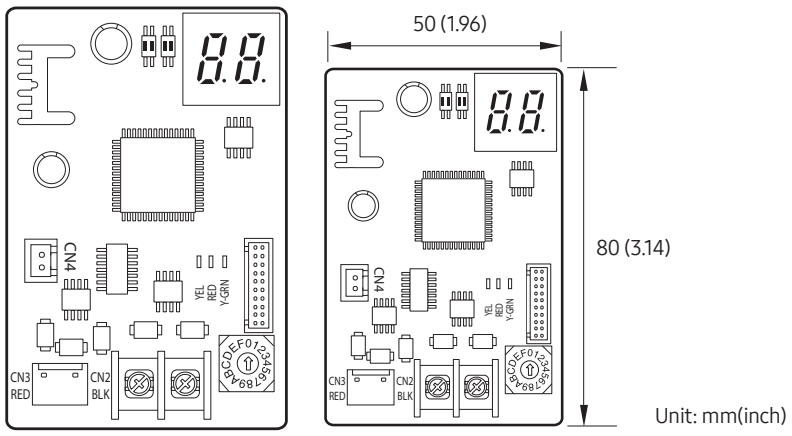
Error display table

Error	Display	Error Code	Display on new communication upper level controller	Display on Conventional communication upper level controller
EEPROM	Er-E4	E654	E654	-
Overlapped address	Er-E5	E108	E108	-
Tracking failure	Er-E3	E604	E201	-
Indoor unit communication error	Er-E1	E615	E201 or E101	E615
Outdoor unit communication error	Er-E1	E616	E202	E616
Upper level controller communication error (Conventional type)	Er-E2	-	-	-

ERV interface module

MIM-N10

Features



- Communication interface module between new communication ERV and controller
- Connect 1 ERV interface module to Max. 16 ERVs
- Individual control – Maximum 16 ERVs
- Group control – Maximum 16 groups
- Supported communication type
  - Conventional communication ERV ↔ New communication upper level controller
  - New communication ERV ↔ Conventional communication upper level controller
  - New communication ERV ↔ New communication upper level controller

⚠ **Caution**

- This interface module does not support connection between Conventional communication ERV ↔ Conventional communication upper level controller

Product specification

Power Supply	DC 12V
Power Consumption	2.4 W
Operating Temperature range	-10 °C~50 °C (14°F~122°F)
Operating Humidity range	10%RH~90%RH
Communication	RS485 x 2
Max.Communication Length	1000 M (3280 ft)
Maximum number of connection	1. New communication ERV ↔ Conventional communication upper level controller F1/F2: ERV 16 ERVs R1/R2: 1 upper level controller 2. Conventional communication ERV ↔ New communication upper level controller F1/F2: ERV 16 ERVs R1/R2: Total up to 16 upper level controllers (Only 1 DMS 2.5, BACnet GW/LonWorks GW connection is allowed) 3. New communication ERV ↔ New communication upper level controller F1/F2: ERV 16 ERVs R1/R2: Total up to 16 upper level controllers (Only 1 DMS 2.5, BACnet GW/LonWorks GW connection is allowed)

ERV interface module › MIM-N10

Compatible Models

New communication ERV ↔ Conventional communication upper level controller

ERV	New communication ERV
Upper level controller	**1** OnOff controller: MCM-A202D **2** DMS2: MIM-D00A **3** BACnet GW: MIM-B17 **4** LonWorks GW: MIM-B18 **5** S-NET mini : MST-S3W

- Function controller and S-NET 2 Plus are not supported.
  - New communication ERV+ MIM-N10 + MCM-A202D + Function controller (X)
  - New communication ERV + MIM-N10 + MCM-A202D + S-NET 2 Plus (X)

Conventional communication ERV ↔ New communication upper level controller

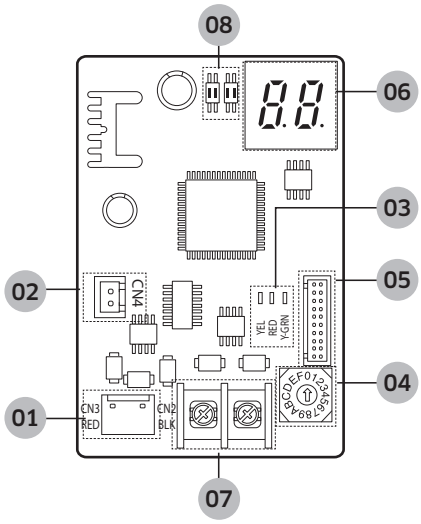
ERV	Conventional communication ERV (Except mechanical ERV)
Upper level controller	**1** OnOff controller: MCM-A202DN **2** DMS2.5: MIM-D01AN **3** BACnet GW: MIM-B17BN **4** LonWorks GW: MIM-B18BN **5** Touch centralized controller: MCM-A300N **6** Wi-Fi kit : MIM-H03N

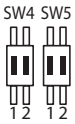
New communication ERV ↔ New communication upper level controller

ERV	New communication ERV
Upper level controller	**1** OnOff controller: MCM-A202DN **2** DMS2.5: MIM-D01AN **3** BACnet GW : MIM-B17BN **4** LonWorks GW : MIM-B18BN **5** Wi-Fi kit : MIM-H03N

ERV interface module › MIM-N10

Description of parts



No.	Name	Description
01	F1/F2 communication connector	Communication terminal that connects to outdoor unit/F1/F2 of ERV
02	Power connector	DC 12V
03	Communication LED	Communication indicator LED • Left LED 3: No function • Middle RED: Blinks during it communicates with upper level controller • Right Y-GRN: Blinks during it communicates with ERV
04	Address setting switch	Sets the address of interface module
05	Software update connector	Using this connector, Interface module software can be updated
06	7-segment	Displays the communication status between interface module and ERV
07	Upper level controller communication channel	Communication terminal to upper level controller R1/R2
08	DIP switch	 SW5 - No use SW4: 1 — OFF (Auto address setting, switch must be down); ON (Manual address setting, switch must be up) SW4: 2 — OFF (New communication upper level controller ↔ Conventional communication ERV) (Conventional communication upper level controller ↔ New communication ERV); ON (New communication upper level controller ↔ New communication ERV) • When upgrading the program, SW4-2 must be set to ON status before proceeding upgrade regardless of the installation condition. – After completing the download, set the DIP switch #2 correctly according to installation condition before supplying the power.

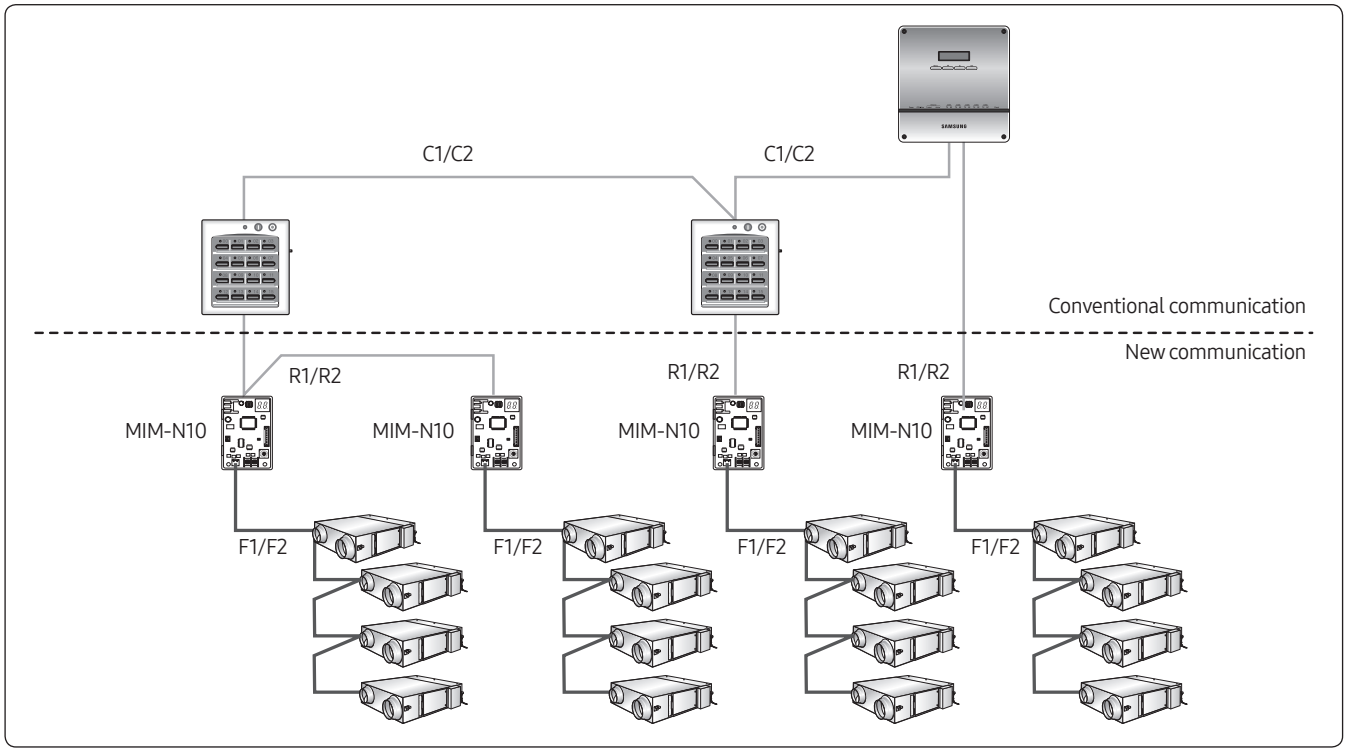
Note

- When connecting to the conventional communication controller, address must be set manually regardless to the SW4-1 setting. When setting the address manually, make sure to set the address that is not assigned to other deivce already.
- When connecting to the new communication controller, SW4-1 must be ON to set the address manually, and make sure to set the address that is not assigned to other compatible interface module or outdoor units.

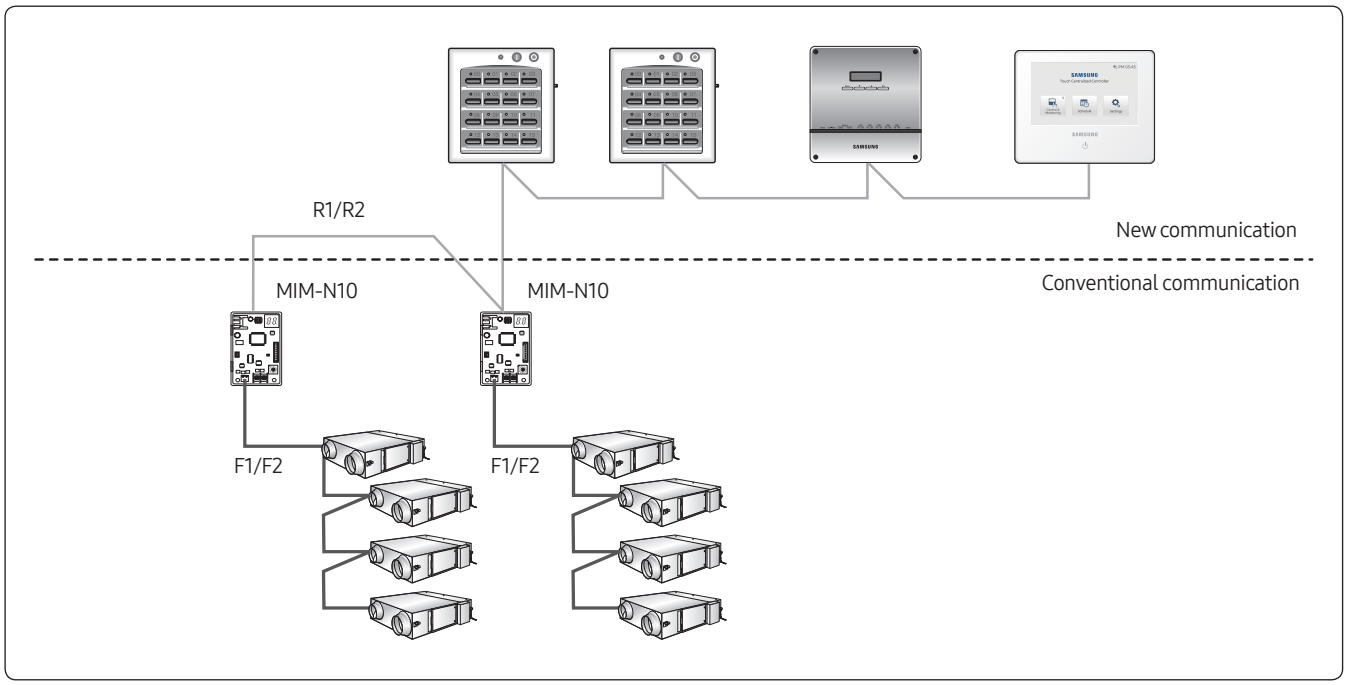
ERV interface module › MIM-N10

Connection diagram

New communication ERV ↔ Conventional communication upper level controller



Conventional/new communication ERV ↔ New communication upper level controller

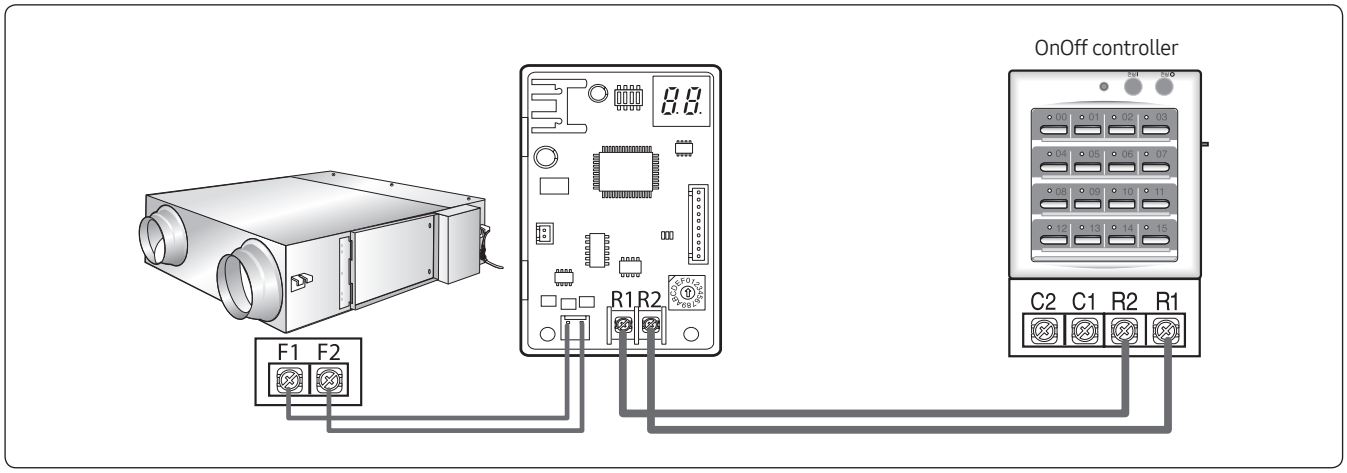


ERV interface module › MIM-N10

Connection

Connecting with OnOff controller

- Conventional communication ERV ↔ New communication OnOff controller (MCM-A202DN)
- New communication ERV ↔ Conventional communication OnOff controller (MCM-A202D)

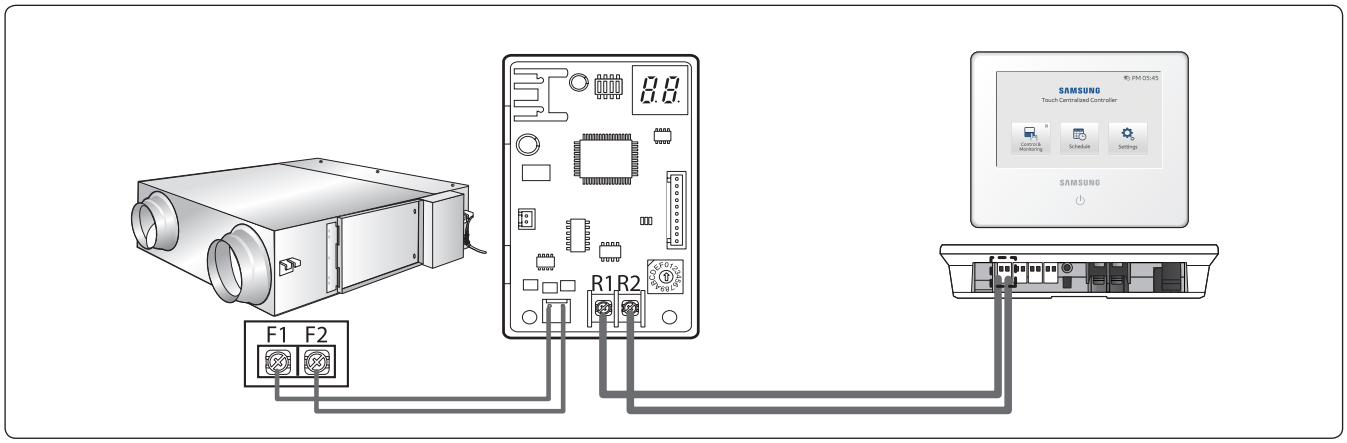


Note

- When connecting conventional communication ERV and OnOff controller(MCM-A202D), MIM-B13D or MIM-B13E must be used.

Connecting with Touch centralized controller

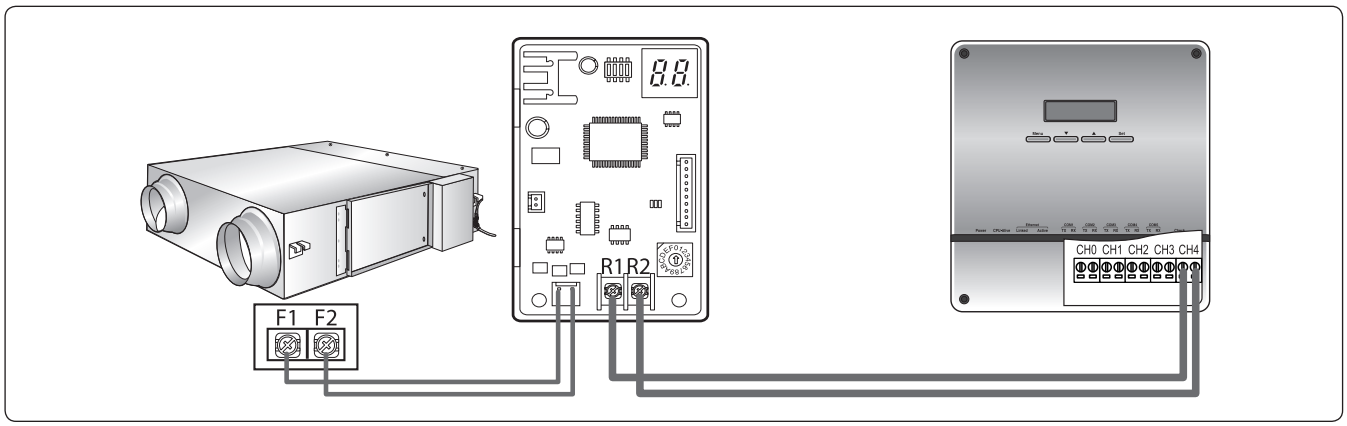
- Conventional communication ERV ↔ New communication Touch centralized controller (MCM-A300N)
- New communication ERV ↔ Conventional communication Touch centralized controller (MCM-A300N)



ERV interface module › MIM-N10

Connecting with DMS2/BACnet GW/LonWorks GW

- Conventional communication outdoor unit ↔ New communication DMS2.5(MIM-D01AN)/BACnet GW (MIM-B17BN)/ LonWorks GW (MIM-B18BN)
- New communication outdoor unit ↔ Conventional communication DMS2(MIM-D00A)/BACnet GW (MIM-B17)/LonWorks GW (MIM-B18)



Checking the operation

1 When initializing power supply, 00 will be indicated after indicating the program cord.

2 After receiving valid communication more than once, 00 will be indicated.

3 When the communication is normal, the MAIN ADDRESS of the ventilator that can be controlled by the ERV interface module is indicated in order.

4 When there is no communication between the ventilaotr and the ERV interface module for more than 3 minutes, E0 ↔ E1 will be indicated alternately.

5 When there is no communication between an ERV interface module and an upper level controller for more than 3 minutes, E0 ↔ E2 will be indicated alternately.

6 When the ERV interface module tracking is not complete, E0 ↔ E3 will be indicated alternately.

7 When there's error on EEPROM of the ERV interface module, E0 ↔ E4 will be indicated alternately.

8 When same address was set to multiple ERV interface modules, E0 ↔ E5 will be indicated alternately.

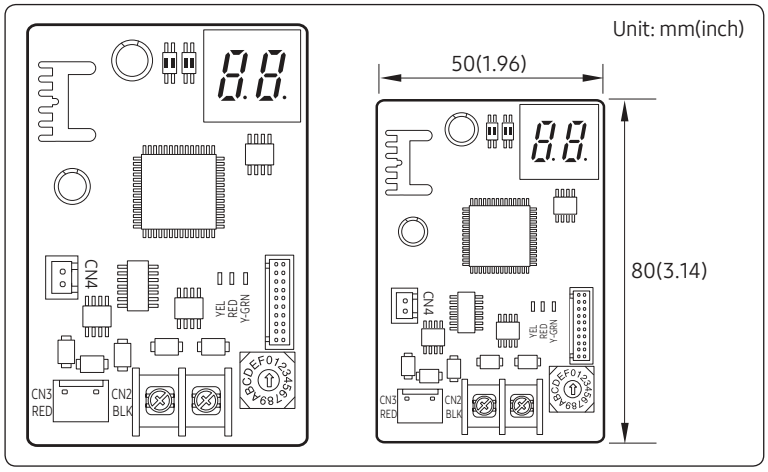
9 When more than 16 ventilators are installed, E0 ↔ E6 will be indicated alternately.

10 When ventilators and indoor units are installed together, E0 ↔ E7 will be indicated alternately.

FCU interface module

MIM-F10N

Features



- Communication interface module between FCU KIT and upper level controller.
- Connect 1 FCU interface module to Max. 16 FCU KITs.
- Supports FCU KIT only

Product specification

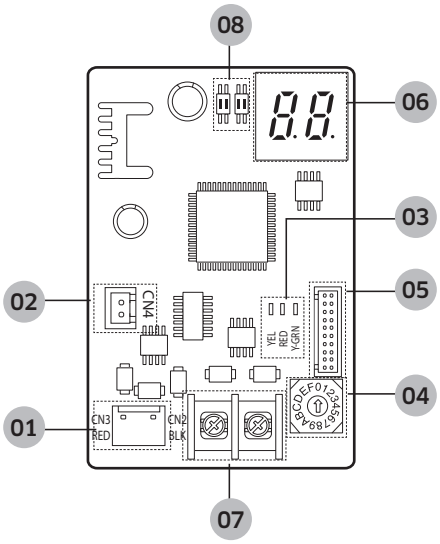
Power Supply	DC 12V
Power Consumption	1W
Operating Temperature range	-10 °C~50 °C (14 °F~122 °F)
Operating Humidity range	10%RH~90%RH
Communication	RS485 x 2
Maximum Communication Length	1000 M (3280 ft)
Maximum number of connection	• F1/F2: 16 FCU KITs • R1/R2: Total up to 16 upper level controllers (Only 1 DMS 2.5, BACnet GW/LonWorks GW connection is allowed)

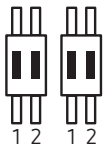
Compatible Models

FCU KIT	MIM-F00N
Upper level controller	• DMS2.5: MIM-D01AN • BACnet GW: MIM-B17BN • LonWorks GW: MIM-B18BN • Touch centralized controller: MCM-A300N

FCU interface module › MIM-F10N

Description of parts

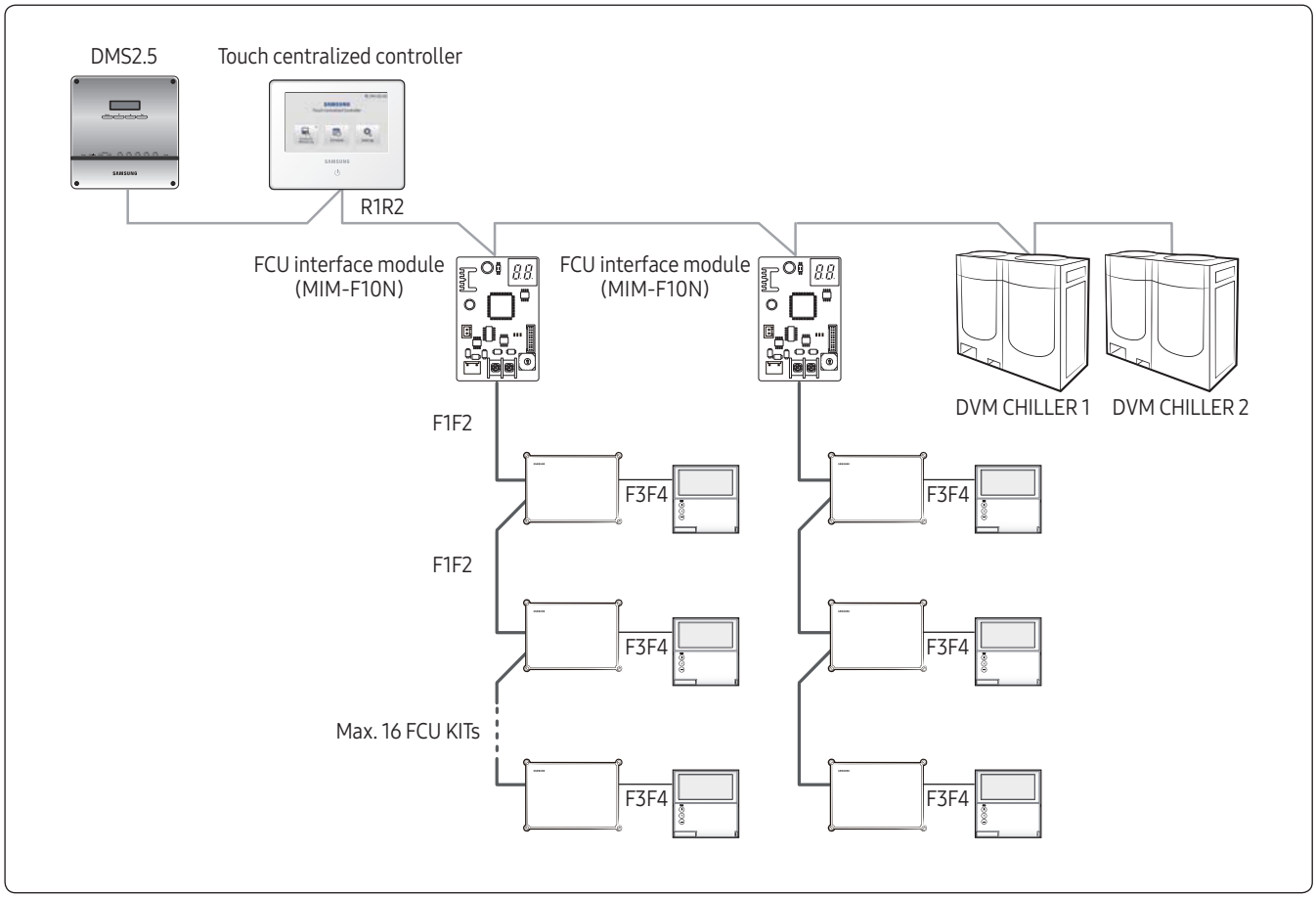


No.	Name	Description
01	F1/F2 communication connector	Communication terminal that connects to F1/F2 of FCU KIT
02	Power connector	DC 12V
03	Communication LED	Communication indicator LED • Left LED3: No function • Middle RED: Blinks during it communicates with upper level controller • Right Y-GRN: Blinks during it communicates with FCU KIT
04	Address setting switch	Sets the address of interface module
05	Software update connector	Using this connector, interface module software can be updates
06	7-segment	Displays the communication status between interface module and FCU KIT
07	Upper level controller communication channel	Communication terminal to upper level controller R1/R2
08	DIP switch	SW4 SW5  1 2 1 2 SW5 - No use

SW4	Description
1	OFF- Auto address setting (Random address), Switch must be down ON-Manual address setting (Assigns FCU interface module's address according to address setting switch), Switch must be up
2	No function

FCU interface module › MIM-F10N

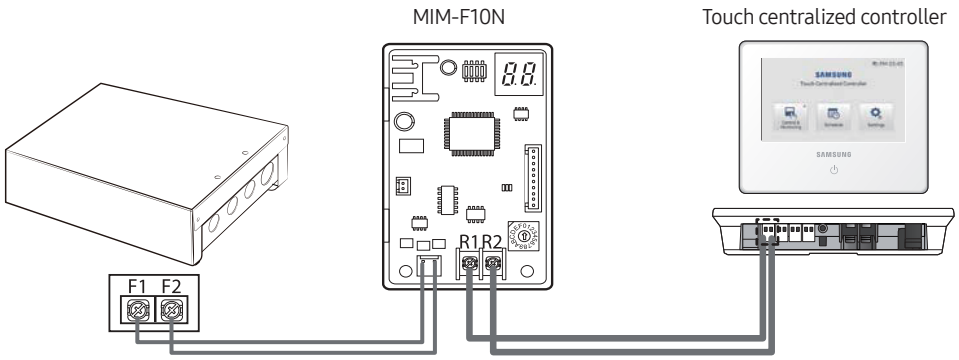
Connection diagram



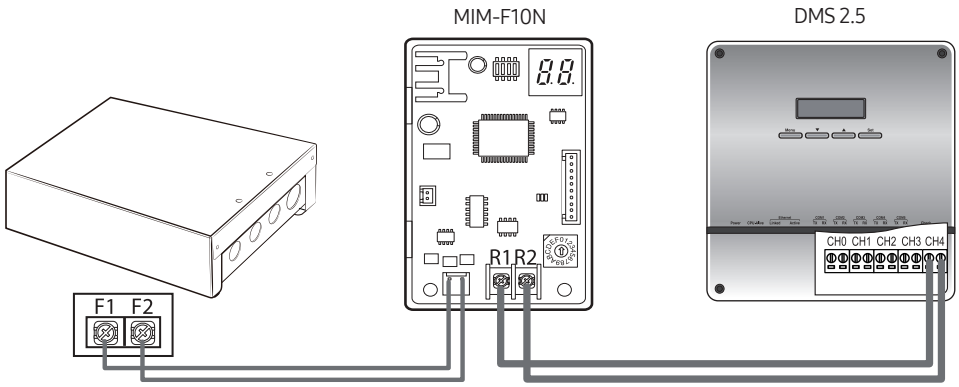
FCU interface module › MIM-F10N

Connection

Connecting with Touch centralized controller



Connecting with with DMS2.5/BACnet GW/LonWorks GW



FCU interface module › MIM-F10N

Display

1 When initializing power supply, 88 will be indicated after indicating the program cord.

2 After receiving valid communication more than once, 00 will be indicated.

3 When the communication is normal, the MAIN ADDRESS of the FCU KIT that can be controlled by the FCU interface module is indicated in order.

4 When there is no communication between the FCU KIT and the FCU interface module for more than 3 minutes, E□ ↔ E1 will be indicated alternately.

5 When the FCU interface module tracking is not complete, E□ ↔ E3 will be indicated alternately.

6 When there's error on EEPROM of the FCU interface module, E□ ↔ E4 will be indicated alternately.

7 When same address was set to multiple FCU interface modules, E□ ↔ E5 will be indicated alternately.

8 When more than 16 FCU KITs are installed, E□ ↔ E6 will be indicated alternately.

9 When FCU KIT and indoor units are installed together, E□ ↔ E7 will be indicated alternately.

Chapter
05

Installation/ Test run Solution

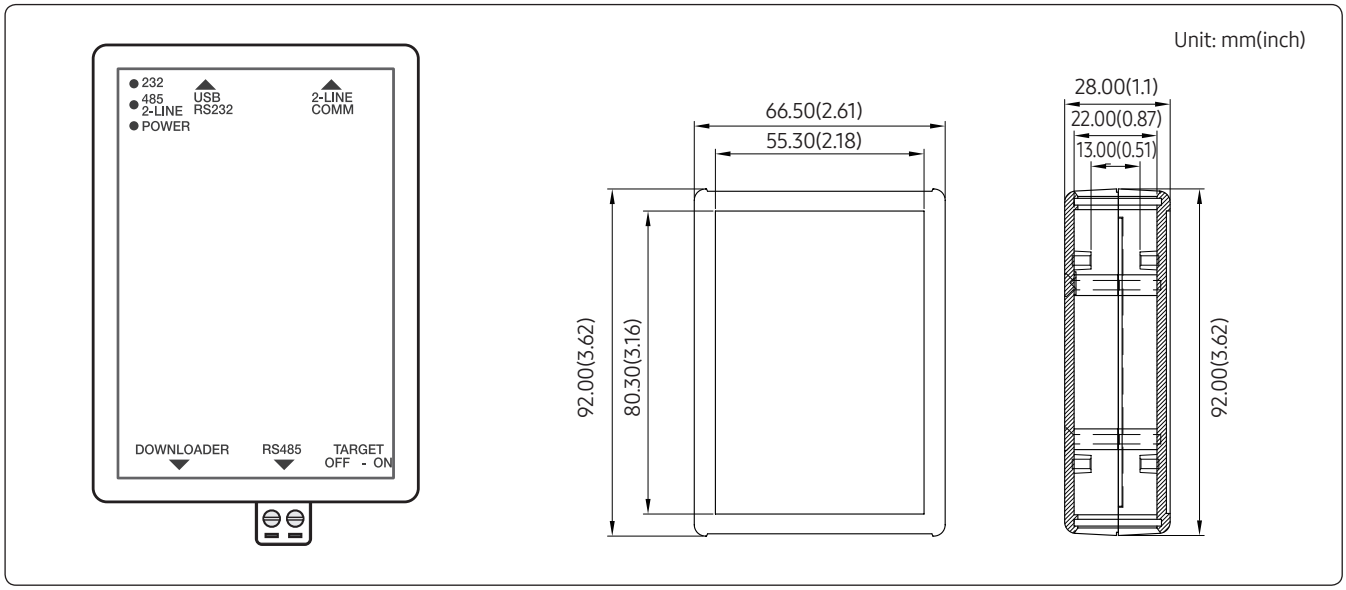
S-Converter

()* is used in Turkey.

S-Converter

MIM-C02N (MIM-C02RN)*

Features



- Communication converting module to connect Samsung system air conditioner to a PC.
- Main purpose for use
  - To connect with test run program

  [Test run program]
  - S-NET Pro: Conventional communication
  - S-NET Pro2: New communication

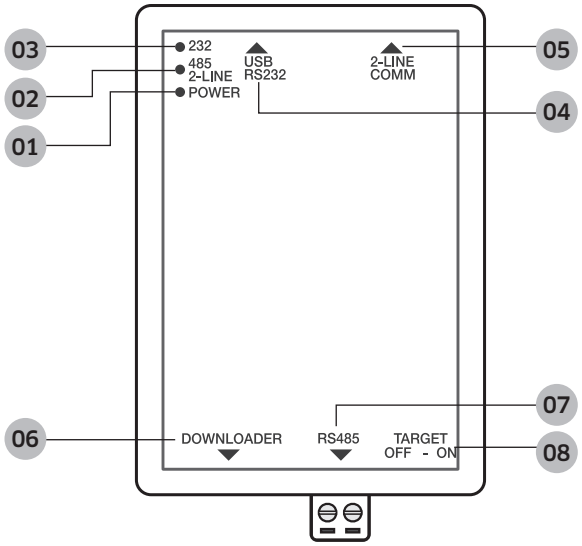
Product specification

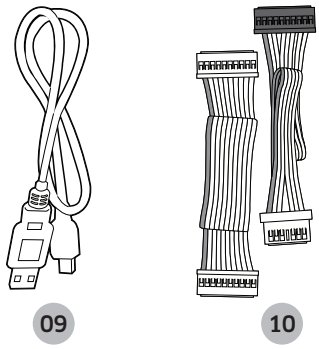
Power supply			DC 5V, below 500mA
Power consumption			Below 3W
Operating temperature range			0°C~40°C (32°F~104°F)
Operating humidity range			0%RH~90%RH
Communication	RS485	Port Q'ty	1
Maximum length of connection	RS485	m(ft)	1000 (3280)

()* is used in Turkey.

S-Converter › MIM-C02N (MIM-C02RN)*

Description of parts



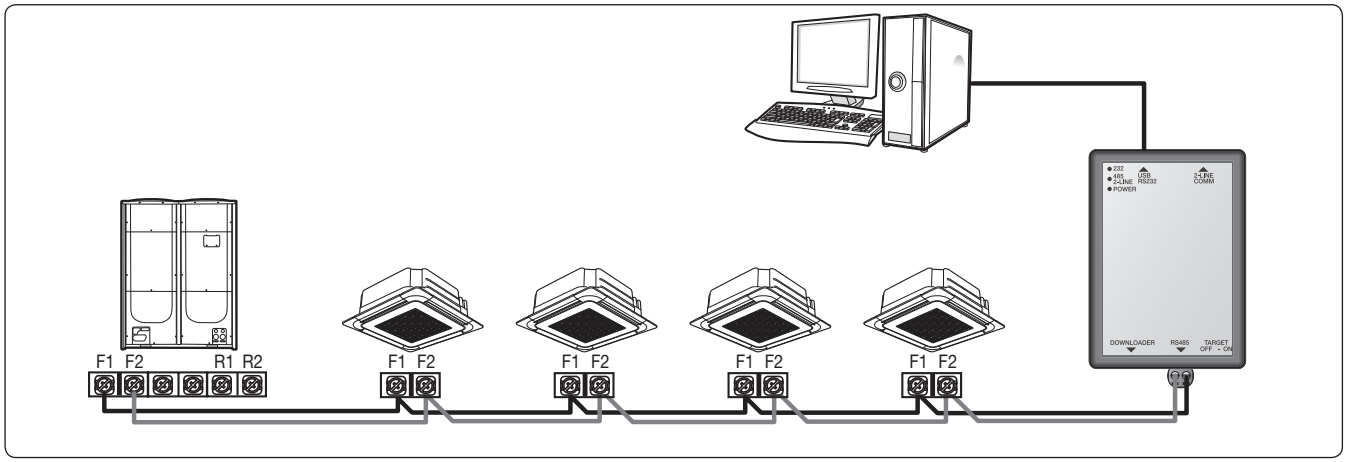


No.	Name	Description
01	Power LED	Display power status
02	485 communication/ 2 line communication LED	Displays communication status when outdoor unit 2 line remote controller is connected
03	232 LED	Displays communication status with the PC
04	USB-RS232 connection terminal	Connection terminal for communication with the PC
05	2 line communication connection terminal	Only applies to new communication indoor unit 2 line communication connection terminal between indoor unit - wired remote controller (For R&D testing)
06	Downloader connection terminal	PBA download connection terminal
07	RS485 communication connection terminal	Connection cable for connecting with indoor/outdoor unit's F1, F2 communication terminal
08	TARGET OFF – ON button	Only used when S-converter is used as SW downloader for the product • If the S-Converter supplies the power through the PBA of the product that will download the SW, this button resets the power that was supplied through the S-Converter
09	USB-to-232 cable	Cable that connects S-Converter and PC
10	SW downloader cable	Only used when S-converter is used as SW downloader for the product • Connect S-Converter (20 Pin) and the downloader terminal (10 Pin, 7 Pin) of the product's PCB

()* is used in Turkey.

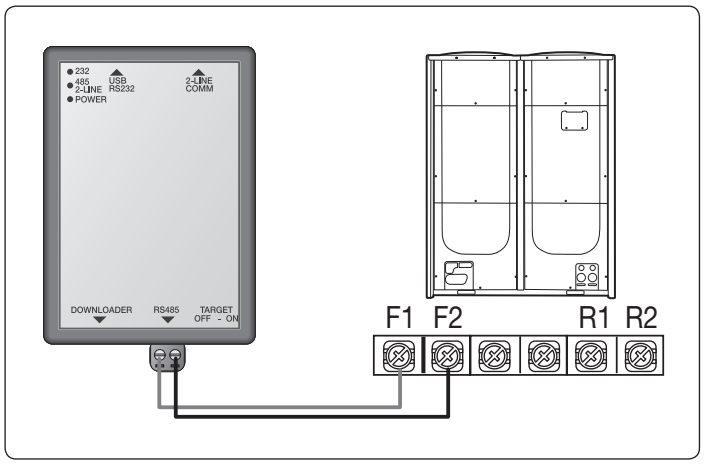
S-Converter › MIM-C02N (MIM-C02RN)*

Connection diagram

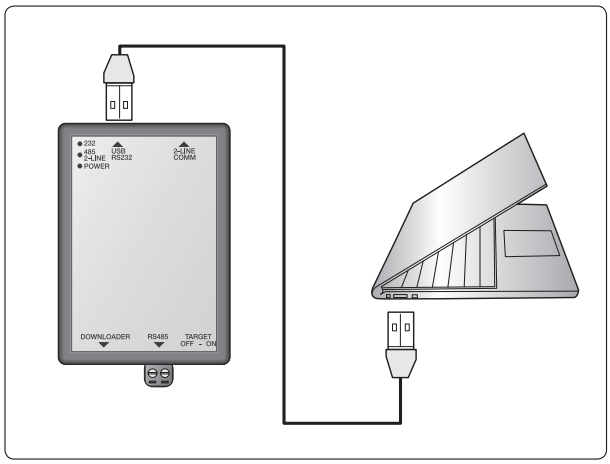


Connecting

Connecting with outdoor unit



Connecting with PC



()* is used in Turkey.

S-Converter › MIM-C02N (MIM-C02RN)*

Display

POWER LED

- When connected to Conventional communication outdoor unit - LED blinks
- When connected to new communication outdoor unit - LED is on

232 LED

- LED blinks every time control signal is transmitted from the Test run program
- If the LED doesn't blink even though the test run program sends control command, check if the program is appropriate for the communication type (Conventional communication/new communication)

485/2-LINE LED

- LED blinks when the data is being transmitted from the 485 or 2-line communication device
- 485 communication cable - outdoor unit connection (Connects test run program)
  2-line communication device - wired remote controller connection (connects program for the developer)
- If the LED doesn't turn on, check if the communication cable is disconnected/short or check if the device is appropriate for the communication type (Conventional communication/new communication)

()* is used in Turkey.

Chapter
06

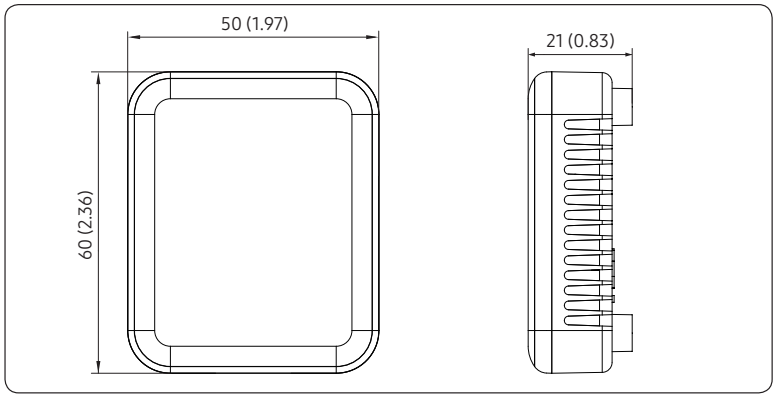
Others

()* is used in Turkey.

External Room Sensor

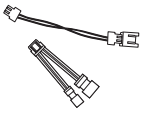
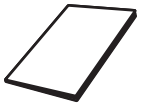
MRW-TA

Features



- Indoor unit is operated by MRW-TA instead of its own sensor.
- Wire length : 12m(39ft)

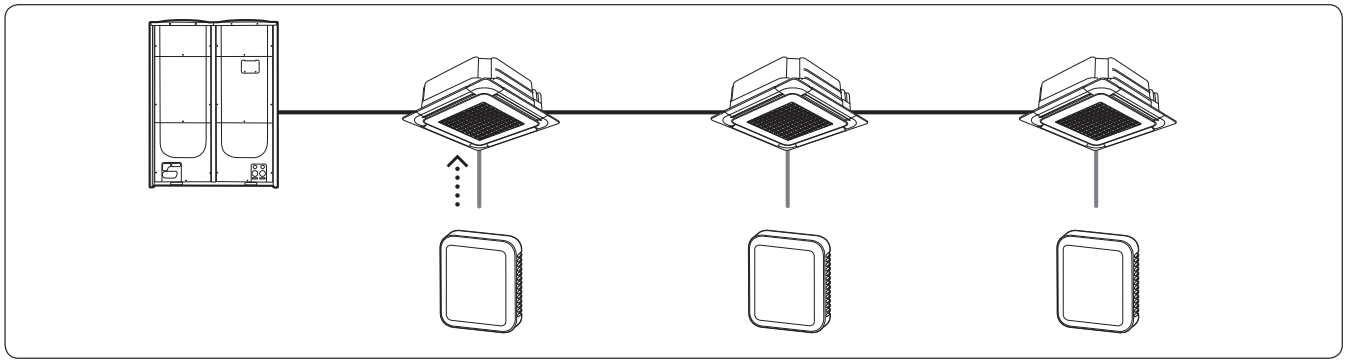
Components

Cable Tie(2)	M4X16 Tapped Screw (2)	12m Extension Wire (1)	External Room Sensor (1)	Adapter (2)	Wire Joint (2)	Seal Thermal Kit (1)	Installation Manual (1)
							

⚠ **Caution**

- The external room sensor must be installed by an installation specialist.
- Before installing the external room sensor, check that you have turned off the main power.
- Extension wire should be installed according to the national wiring rules and you must install it to the wall not to be touched by users.

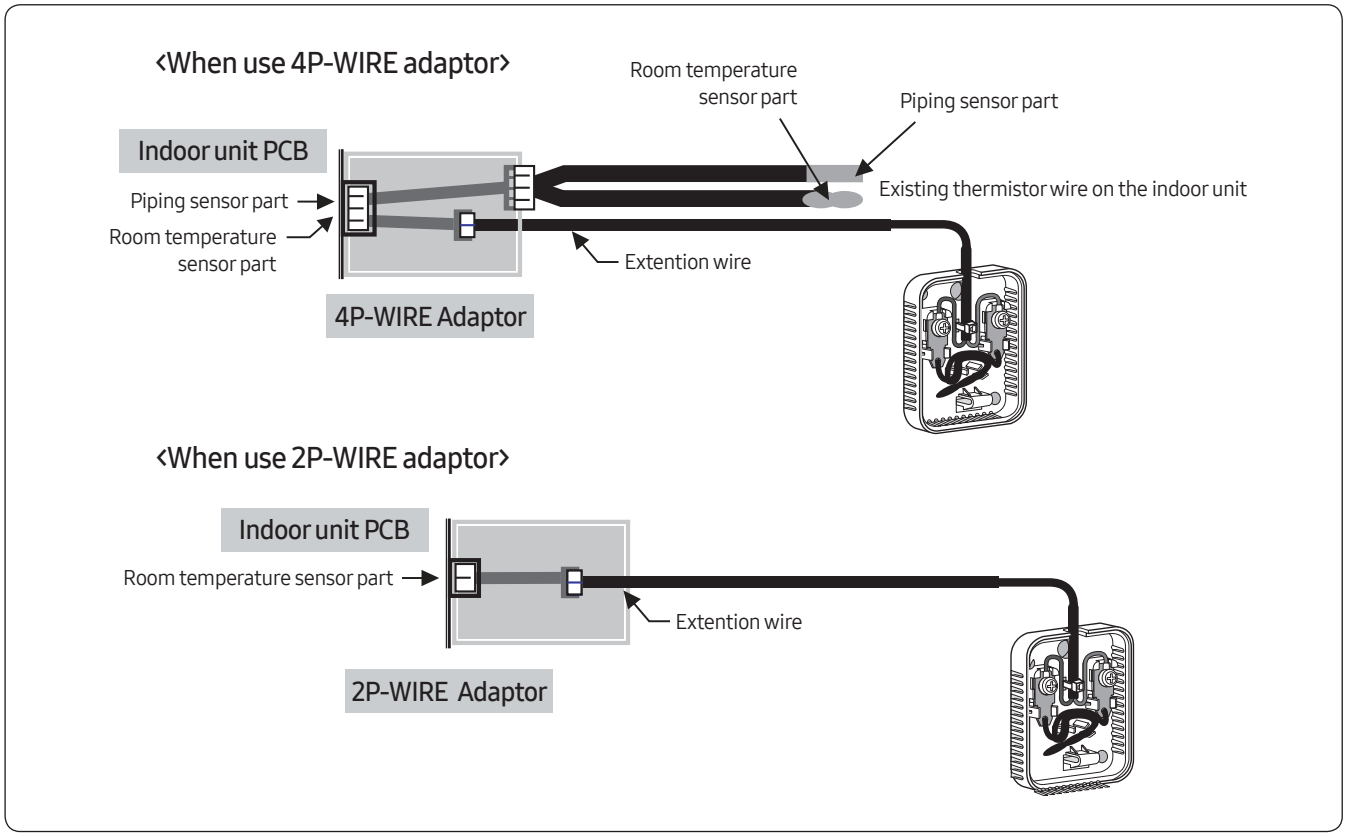
Simulation of usage



External Room Sensor› MRW-TA

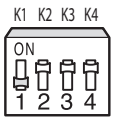
Installation

- Separate the existing thermistor wire from the indoor unit PCB.
- Connect the provided 4P-WIRE adaptor to the thermistor wire(4Pin) terminal on the indoor unit PCB.
- Connect the existing wire to the 4Pin terminal on the 4P-WIRE adaptor.
- Connect the extension wire terminal to the 2Pin terminal on the adaptor.
- Do not cut the existing room temperature sensor and store it inside of the control box.



⚠ **Caution**

- When installing the external room sensor, turn off the K1 switch of indoor unit PCB.
- Some models need S/W upgrade.

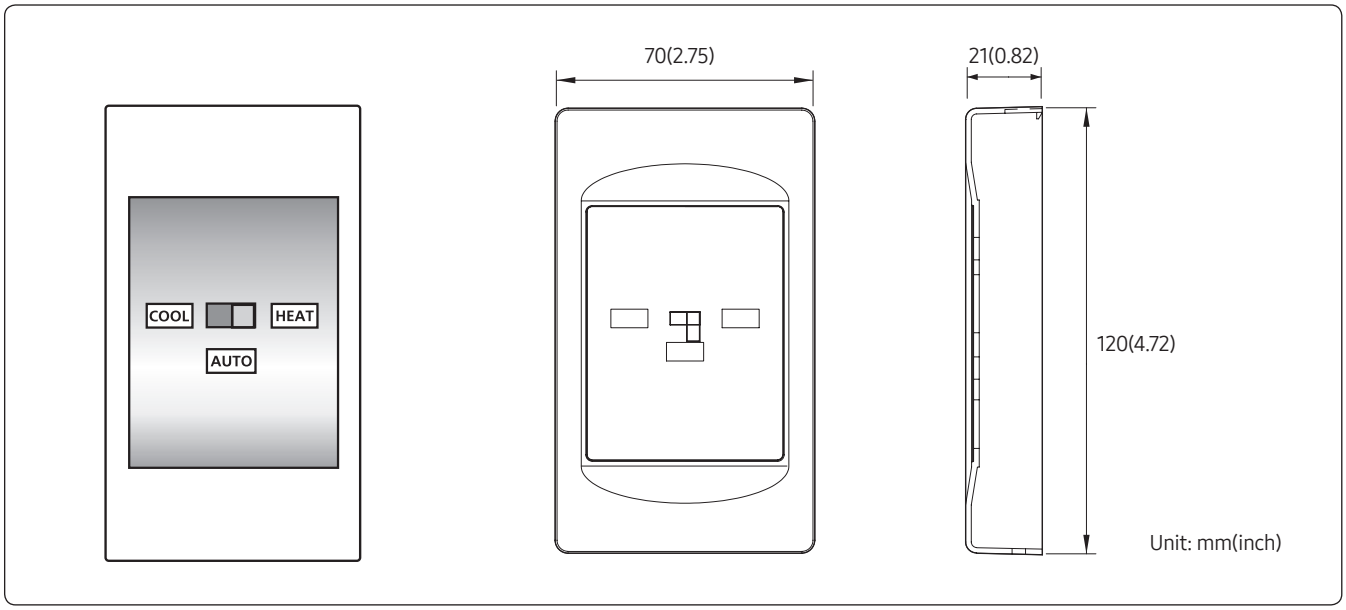


※ Before installation you should read installation manual and check whether it is installed correctly after installation.

Operation mode selection switch

MCM-C200

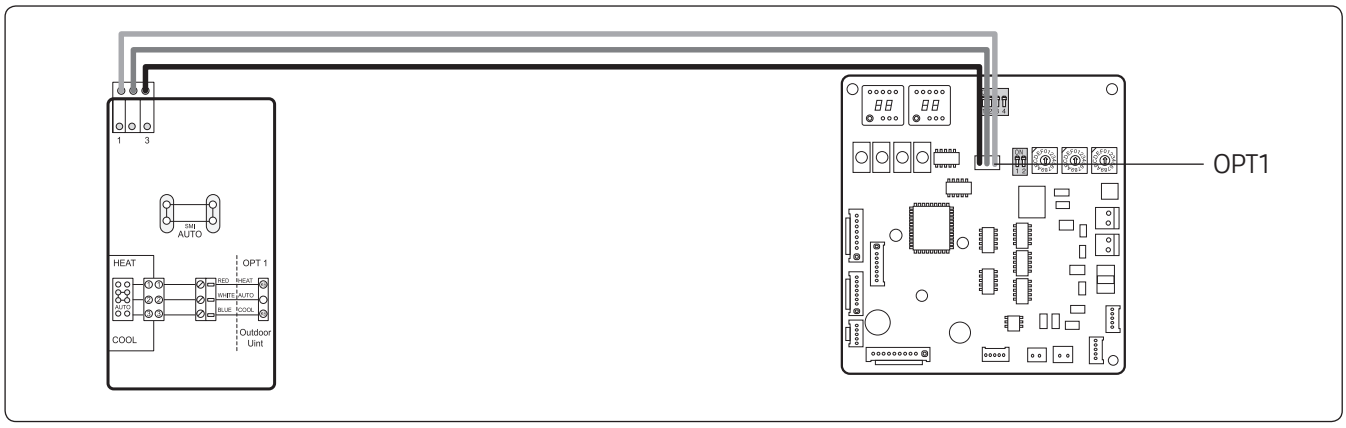
Features



Operation mode selection switch

- Outdoor unit operation mode selection (Cooling, Heating or Auto)
- Mixed operation mode protection

Installation

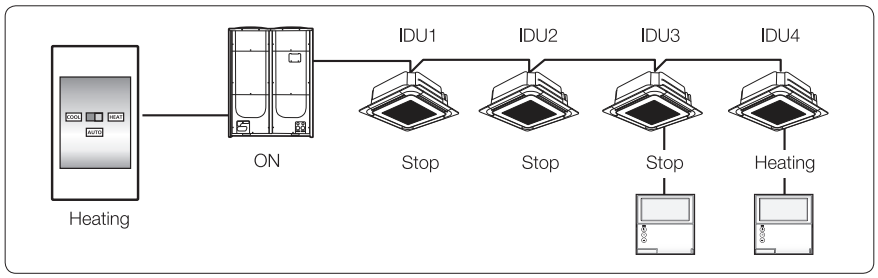


- 1 operation mode selection switch must be connected to 1 outdoor unit.
- Max. distance between the outdoor unit PCB and the MCM-C200: 100m(328ft)

Operation mode selection switch > MCM-C200

Control example

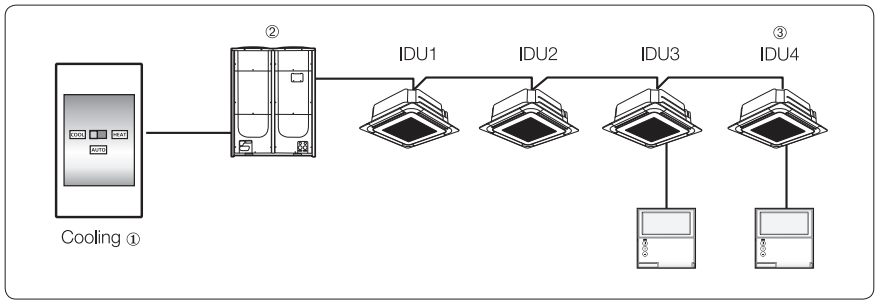
Initial condition



- Cool/Heat Selector: Heating position
- IDU1, 2, 3: Stop mode, IDU4: Heating mode
- Compressor ON

Sequence 1

Set the Cool/Heat selector to the Cooling position

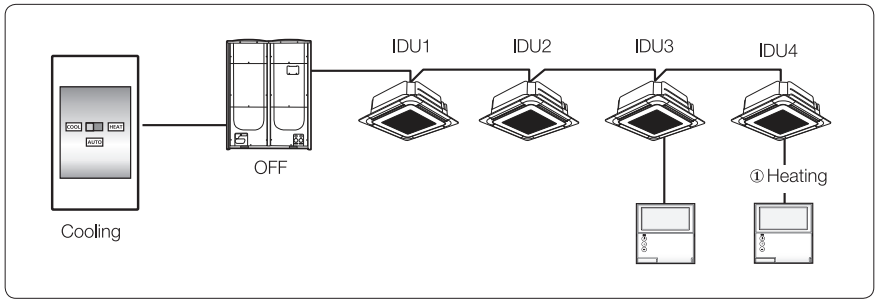


Result

① Change Cool/ Heat Selector to Cooling
② Automatically compressor OFF
③ Running IDU4 stops

Sequence 2

Set IDU4 to Heating with Remote controller



Result

① • IDU4 ignores Heating command
• IDU4 keeps OFF status.

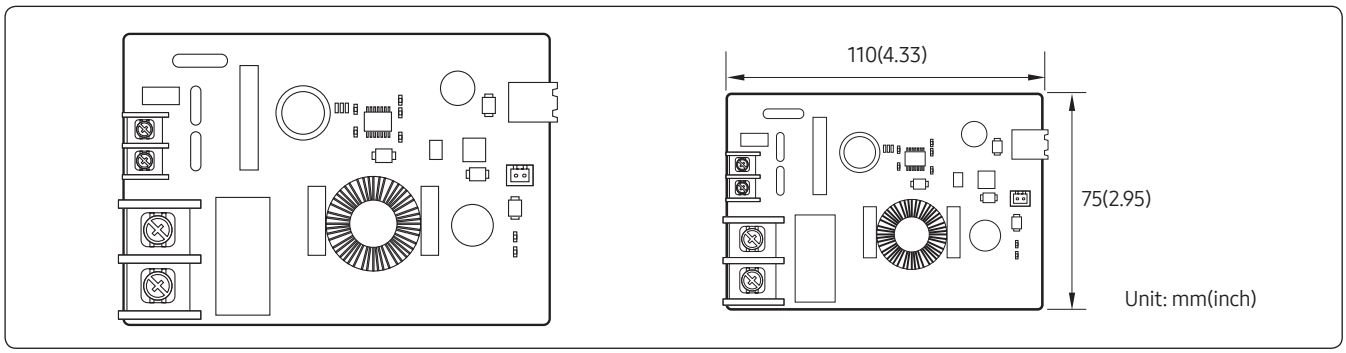
Note

- Operation mode selection switch fixed indoor unit operation mode.
  Indoor unit ignores opposite operation mode. (It will not accept the command and it will just beep shortly)

MTFC (Multi Tenant Function Controller)

MCM-C210N

Features



- Multi tenant function controller is an auxiliary power supply device which allows indoor unit to turn off (close EEV) normally and maintain communication when main power supply is cut.
- It is used in site such as hotel where individual power is supplied to the indoor unit

Note

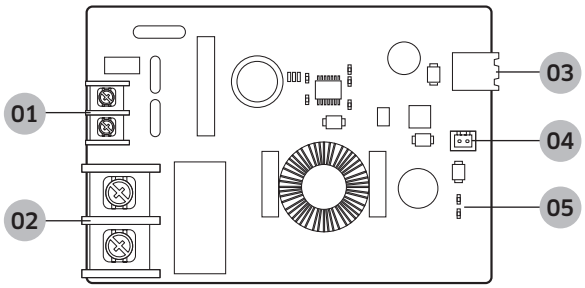
- To intall the MTFC, connection cable for the power, transformer and the IP (Ingress Protection) box must be purchased separately at the installation site.
- Specification of the transformer: UL Standard, Class2, 24Vac ±15% 50/60 Hz

Product specification

Power supply	AC 24V
	50/60 Hz
Power consumption	10W
Operating temperature range	-10°C ~ 50°C (14°F ~ 122°F)
Operating humidity range	10 % RH~90 % RH
Maximum length of connection	3 m (9.84)
Number of control devices	1 indoor unit

MTFC (Multi Tenant Function Controller) > MCM-C210N

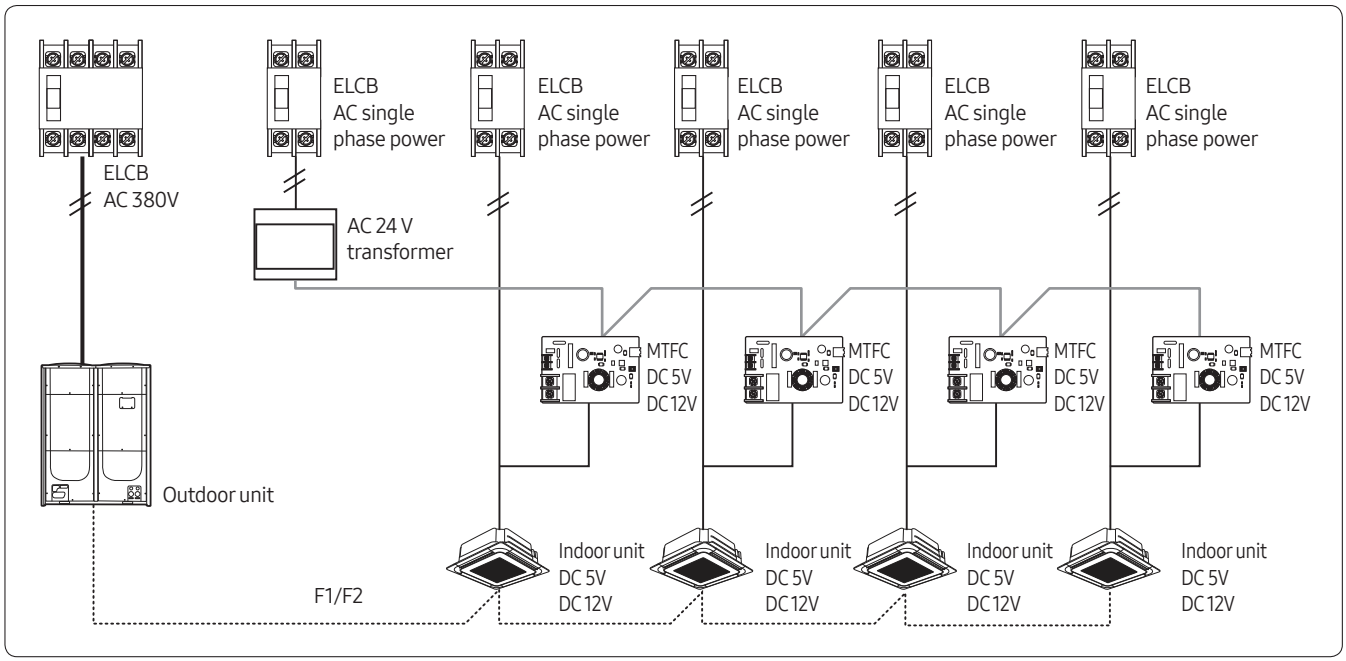
Description of parts



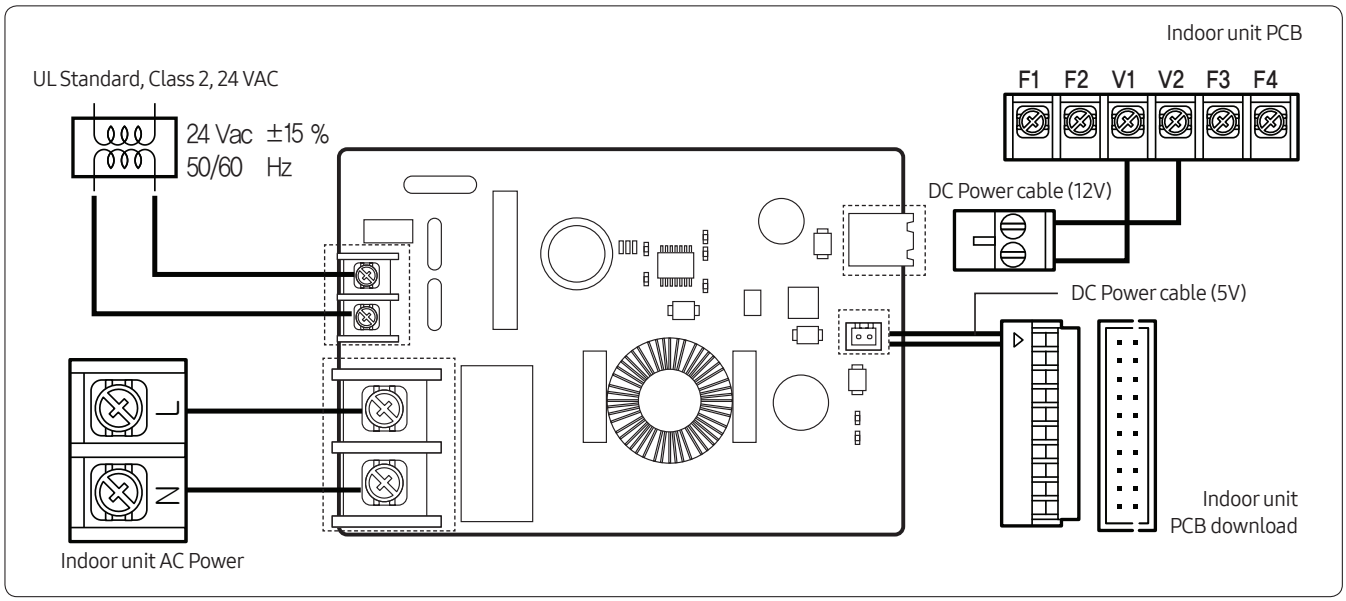
No.	Name	Description
01	Terminal for auxiliary power	Connect AC 24V power
02	Terminal for indoor unit power connection	To check for AC single phase power cut-off of the indoor unit, connect the power cable to the multi tenant function controller.
03	DC 12V output terminal	Terminal which supplies DC 12V to indoor unit
04	DC 5V output terminal	Terminal which supplies DC 5V to indoor unit
05	Operation status indicator LED	• LED ON: When AC single phase power for indoor unit is cut-off and DC 12V, DC 5V is output normally from the multi tenant function controller • LED OFF: When AC single phase is supplied normally to the indoor unit

MTFC (Multi Tenant Function Controller) > MCM-C210N

Connection diagram



Connecting



MTFC (Multi Tenant Function Controller) > MCM-C210N

Main fucntion

Multi tenant function controller operation

- When AC power (that is supplied to indoor unit) is cut-off, it supplies auxiliary power (DC 12V, DC 5V) to the indoor unit.
- When AC power (that is supplied to indoor unit) is supplied normally, it cuts-off the auxiliary power (DC 12V, DC 5V) to the indoor unit.

Detail information of the indoor unit when the power is supplied by MTFC

Item	Operation	Detail information
Indoor unit operation	OFF	Remain indoor unit in off status, turning on is not possible
EEV control	Close	Operation off, follows indoor unit's EEV control
Self error diagnosis	Operating	Detects error such as EEV close/open by executing self-diagnosis
Displaying error on panel display	Display partially	Case 1) The errors of itself: it displays. Case 2) The errors of the other units: it doesn't display.
Operation of the connected wired remote controller	OFF	Power cut (not working)
Panel display	All off	All LEDs is off
Input outdoor unit key mode (Test run)	Not operating	The others are operated except the indoor unit in MTFC mode
Controlling from the control device	Not operating	Remain off status, turning on is not possible
Setting option code	Not operating	Option setting from wireles remote controller, wired remote controller and S-NET Pro etc is not possible
Recognition of MTFC status	Possible only through S-NET Pro 2	Using S-NET Pro2, user can check MTFC working status
Beep	Not operating	-

When AC single phase power is normally supplied to indoor unit

Indoor unit operates normally.

⚠ **Caution**

- Wired remote controller for group control cannot be installed to an indoor unit which Multi Tenant Function controller was installed.
- EEV operation of the stopped Heat mode will be controlled in same condition as noise reduction control option when Multi Tenant Function Controller operates.
- If the Multi Tenant Function Controller operates while multiple indoor units are working in mixed operation mode (cooling and heating at the same time), dew may form on the indoor unit fan.

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