

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	
Ver.2.1	Released the SAC Control System Guide 2018 Version	18.02.28	
Ver.2.2	Released the second half of 2018 version	18.06.30	
Ver.2.3	Released the SAC Control System Guide 2019 Version	18.12.31	
Ver.2.4	Released the second half of 2019 Version	19.07.12	
Ver.3.0	Released the SAC Control System Guide 2023 Version	23.09.08	

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Contents

Individual Control System

Wireless Remote Controller

AR-EH0*E (AR-EH0*R)*

AR-KH0*E (AR-KH0*R)*

Wired Remote Controller

MWR-WE13N (MWR-WE13RN)*

MWR-WG00*N

MWR-WW10N

MWR-WW00N

Simple Type

MWR-SH00N

Touch Simple Type

MWR-SH11N (MWR-SH11RN)*

ERV Wired Remote Controller

MWR-VH12N (MWR-VH12RN)*

Receiver KIT

MRK-A10N

Centralized Control System

Touch Centralized Controller 2.0

MCM-A300BN

OnOff controller

MCM-A202DN (MCM-A202DRN)*

Wi-Fi Kit 2.0

MIM-H04EN (MIM-H04RN)*

Module Controller

MCM-A00N

()* is used in Türkiye.

Integrated management System

DMS2.5

MIM-D01AN (MIM-D01ARN)*

b.IoT Lite

MST-BL1A

EHS Cloud

MST-ET1C

MST-EB1C

MST-EP1C

MST-ED1C

Interface & Gateway

BACnet Gateway

MIM-B17BN (MIM-B17BRN)*

LonWorks Gateway

MIM-B18BN (MIM-B18BRN)*

External Contact Interface Module

MIM-B14

MIM-B14A

PIM (Pulse Interface Module)

MIM-B16N (MIM-B16RN)*

SIM (Signal Interface Module)

MIM-B12N (MIM-B12RN)*

()* is used in Türkiye.

Interface module

MIM-N01

ERV interface module

MIM-N10

FCU interface module

MIM-F10N

Modbus interface module

MIM-B19N

Wi-Fi Single

MIM-H14EN

RAC comm. Kit

MIM-A00N

MIM-R10N

Installation/Test run Solution

S-Converter

MIM-C02N (MIM-C02RN)*

Others

External Room Sensor

MRW-TA

Operation mode selection switch

MCM-C200


















MTFC

(Multi Tenant Function Controller)

MCM-C210N

()* is used in Türkiye.

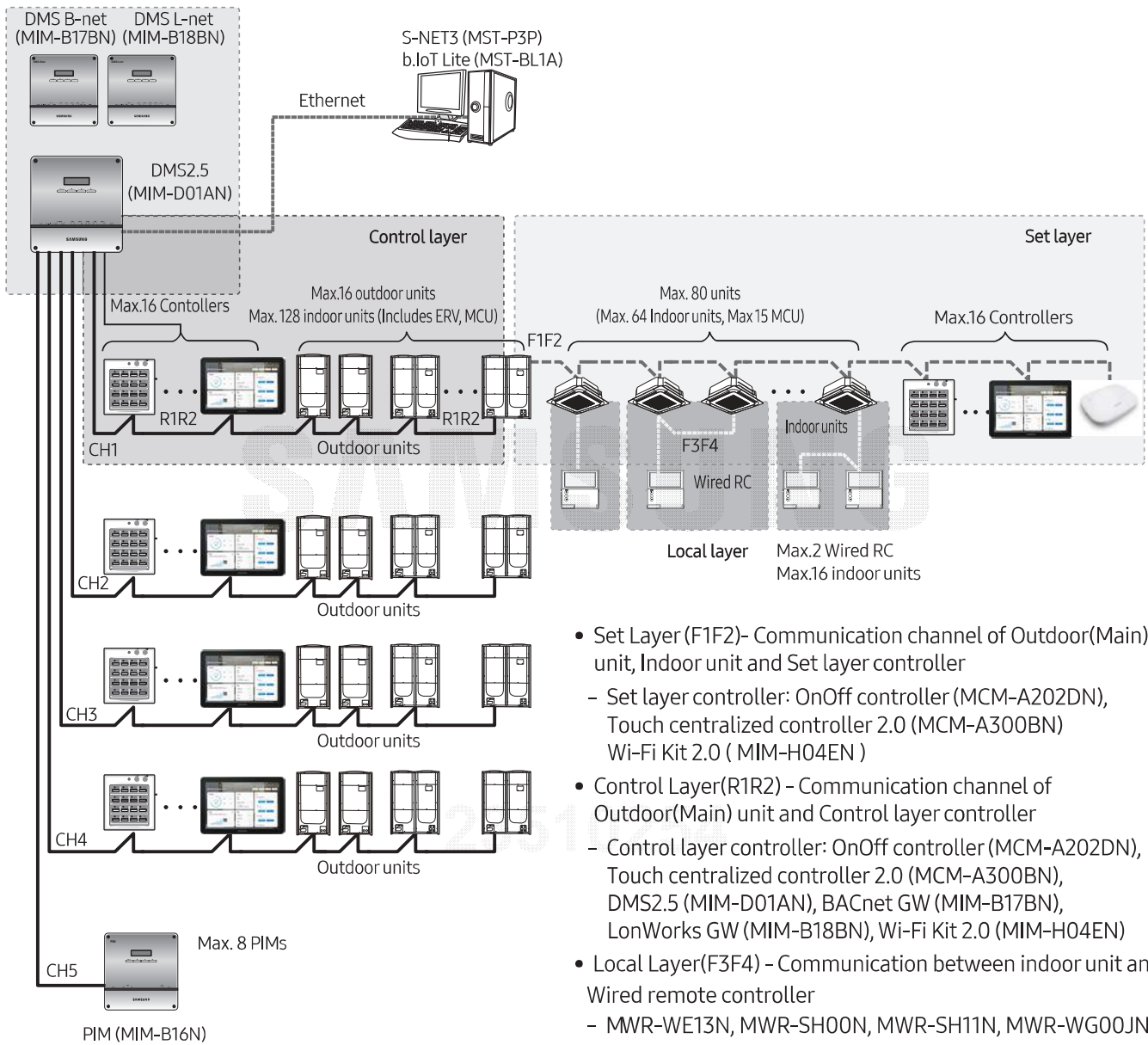
Controller Line up & Compatibility Table

Classification	Product	Model Name		Product Image	Compatibility Table												
		Global	Turkiye		DVM	CAC	DVM Chiller	Water FCU	FCU Kit	ERV	ERV Kit	ERV Plus	EHS (Commercial)	EHS (Residential)	EHS Kit	PAC	AHU Kit
Individual Control System	Wireless Remote Controller	AR-EH0*E	AR-EH0*R		○	○	X	○	○	X	X	X	X	X	X	X	○
	Wireless Remote Controller	AR-KH0*E	AR-KH0*R		○	○	X	○	○	X	X	X	X	X	X	X	○
	Wired Remote Controller : Standard type	MWR-WE13N	MWR-WE13RN		○	○	X	○	○	○	X	○	X	X	X	X	○
	Wired Remote Controller : New Standard type	MWR-WG00*N	X		○	○	X	X	○	○	X	○	X	X	X	X	○
	EHS Wired Remote Controller	MWR-WW10*	X		○	X	X	X	X	X	X	X	○	○	○	X	X
	EHS Wired Remote Controller	MWR-WW00N	X		○	X	X	X	X	X	X	X	○	○	○	X	X
	Wired Remote Controller : Simple type	MWR-SH00N	X		○	○	X	X	○	X	X	X	X	X	X	X	○
	Wired Remote Controller : Touch Simple Type	MWR-SH11N	MWR-SH11RN		○	○	X	X	○	X	X	X	X	X	X	X	○
	ERV Wired Remote Controller	MWR-VH12N	MWR-VH12RN		X	X	X	X	X	○	X	○	X	X	X	X	X
	Receiver Kit	MRK-A10N	MRK-A10N		○	○	X	X	X	X	X	X	X	X	X	X	X
Centralized Control System	Touch Centralized Controller 2.0	MCM-A300BN	X		○	○	X	○	○	○	○	○	○	○	X	○	
	Onoff Controller	MCM-A202DN	MCM-A202RN		○	○	X	○	○	○	X	○	X	X	○	○	
	Wi-Fi Kit 2.0	MIM-H04EN	MIM-H04RN		○	○	X	○	○	○	○	○	○	○	○	○	
	Module Controller	MCM-A00N	X		X	X	○	X	X	X	X	X	X	X	X	X	
Integrated management System	DMS2.5	MIM-D01AN	MIM-D01ARN		○	○	○	○	○	○	○	○	○	X	○		
	b.IoT Lite	MST-BL1A	X		○	○	○	○	○	○	○	○	○	X	○		
	EHS Cloud	MST-E*1C	X		X	X	X	X	X	X	X	X	○	○	X	X	

Controller Line up & Compatibility Table

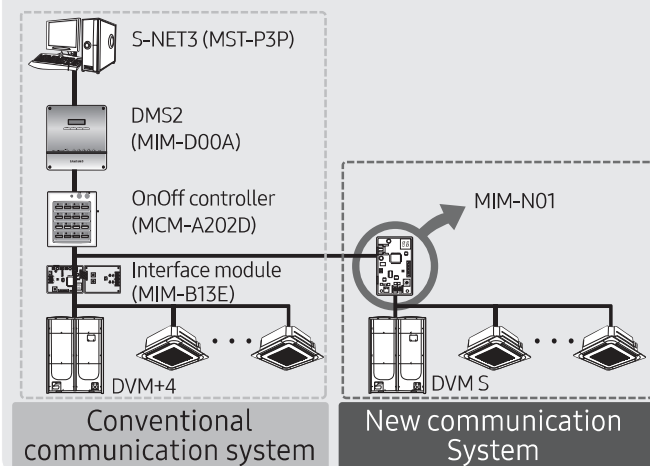
Classification	Product	Model Name		Product Image	Compatibility Table													
		Global	Turkiye		DVM	CAC	DVM Chiller	Water FCU	FCU Kit	ERV	ERV Kit	ERV Plus	EHS (Commercial)	EHS (Residential)	EHS Kit	PAC	AHU Kit	
Interface & Gateway	BACnet Gateway	MIM-B17BN	MIM-B17BRN		○	○	○	○	○	○	○	○	○	○	X	X	○	○
	Lonworks Gateway	MIM-B18BN	MIM-B18BRN		○	○	○	○	○	○	○	X	X	X	X	X	X	○
	PIM (Pulse Interface Module)	MIM-B16N	MIM-B16RN		○	○	○	○	○	○	○	○	○	○	○	○	○	○
	SIM (Signal Interface Module)	MIM-B12N	MIM-B12RN		○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Wi-Fi Single	MIM-H14EN	X		○	○	X	X	X	X	X	X	X	X	X	X	X	X
	External Contact Interface Module	MIM-B14*	MIM-B14*		○	○	X	○	○	○	X	○	○	○	○	X	○	○
	Interface Module	MIM-N01	MIM-N01		○	○	X	X	X	X	X	○	○	X	X	X	○	○
	Modbus Interface Module	MIM-B19N	X		○	○	○	○	○	○	○	○	○	○	○	○	X	○
	ERV Interface Module	MIM-N10	MIM-N10		X	X	X	X	X	○	○	X	X	X	X	X	X	X
	FCU Interface Module	MIM-F10N	X		○	X	X	○	○	X	X	X	X	X	X	X	X	X
	RAC comm. Kit	MIM-A00N	X		○	X	X	X	X	X	X	X	X	X	X	X	X	X
	RAC comm. Kit	MIM-R10N	X		○	X	X	X	X	X	X	X	X	X	X	X	X	X
Installation /Test run Solution	S-Converter	MIM-C02N	MIM-C02RN		○	○	○	○	○	○	○	○	○	○	○	○	○	
Others	External Room Sensor	MRW-TA	X		○	○	X	○	○	X	X	X	○	X	X	X	X	
	Operation Mode Selection Switch	MCM-C200	X		○	X	X	X	X	X	X	X	X	X	X	X	X	
	MTFC (Multi Tenant Function Controller)	MCM-C210N	MCM-C210N		○	X	X	X	X	X	X	X	X	X	X	X	X	

Overview of DVM S New communication system diagram

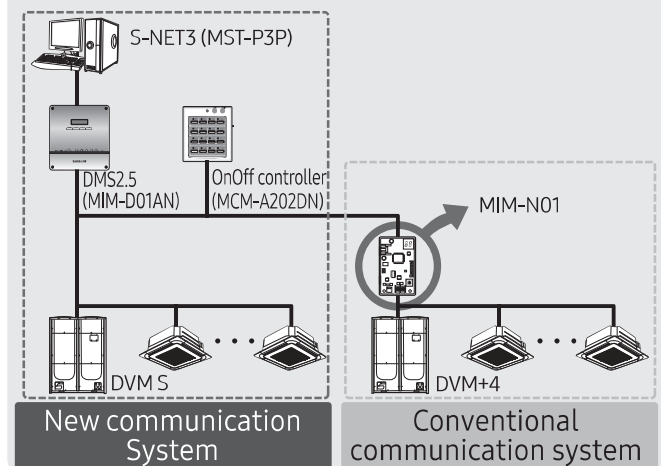


- Set Layer (F1F2)- Communication channel of Outdoor(Main) unit, Indoor unit and Set layer controller
 - Set layer controller: OnOff controller (MCM-A202DN), Touch centralized controller 2.0 (MCM-A300BN), Wi-Fi Kit 2.0 (MIM-H04EN)
- Control Layer(R1R2) - Communication channel of Outdoor(Main) unit and Control layer controller
 - Control layer controller: OnOff controller (MCM-A202DN), Touch centralized controller 2.0 (MCM-A300BN), DMS2.5 (MIM-D01AN), BACnet GW (MIM-B17BN), LonWorks GW (MIM-B18BN), Wi-Fi Kit 2.0 (MIM-H04EN)
- Local Layer(F3F4) - Communication between indoor unit and Wired remote controller
 - MWR-WE13N, MWR-SH00N, MWR-SH11N, MWR-WG00JN, MWR-WG00KN, MWR-WG00RN, MWR-WG00LN

• Case 1 > When DVM S is connected to conventional system



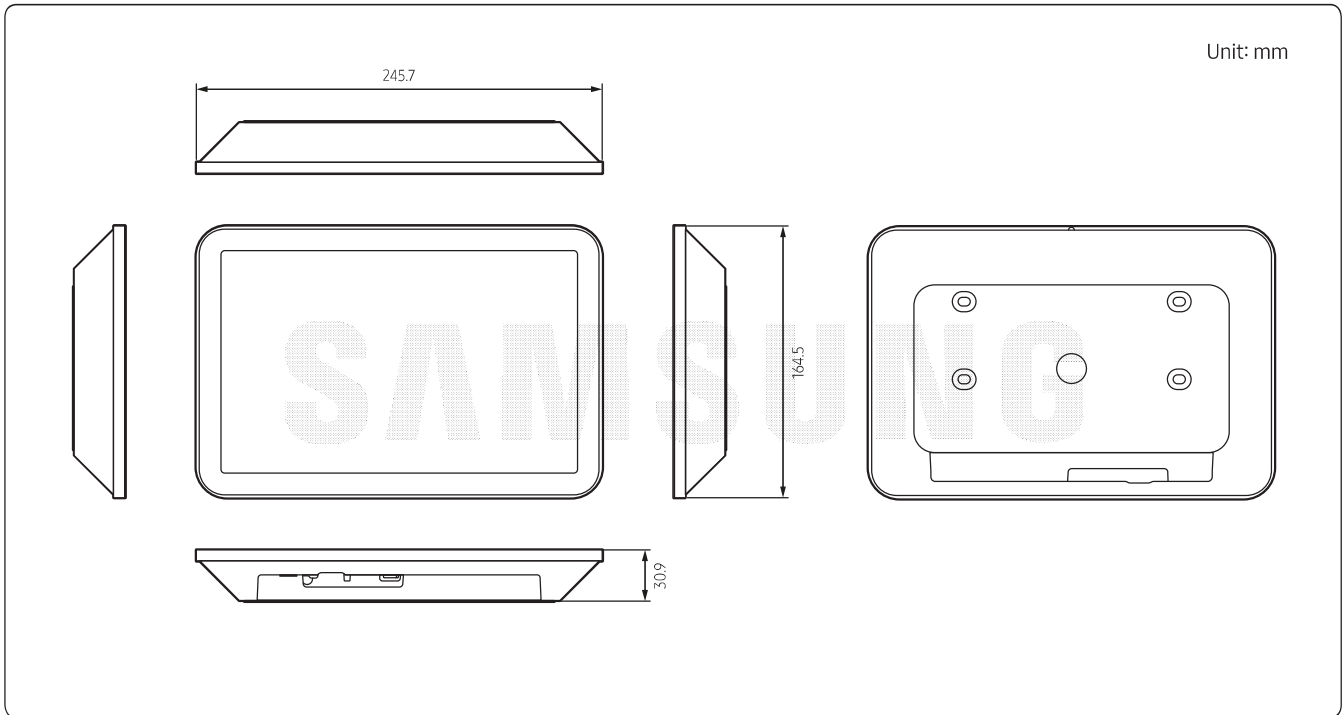
• Case 2 > When DVM+4 is connected to new system



Touch centralized controller 2.0

MCM-A300BN

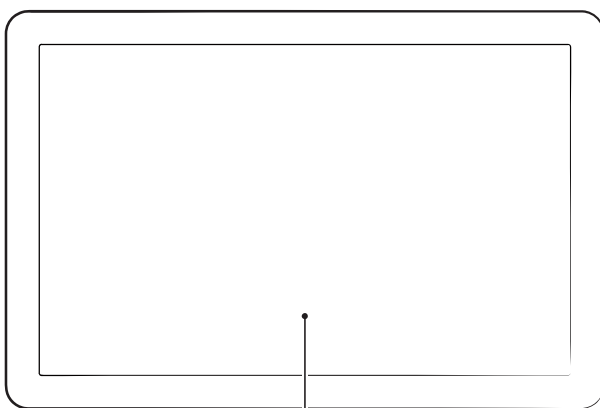
Features



- Controls maximum of 50 schedules/Controls maximum 128 indoor units/
Schedule control
- Indoor unit usage restriction
- View indoor unit error history

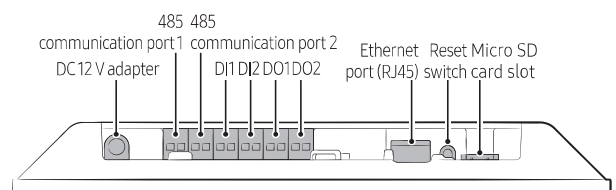
Device Overview

Front



LCD (switches on when touched)

Bottom



Touch centralized controller 2.0 › MCM-A300BN

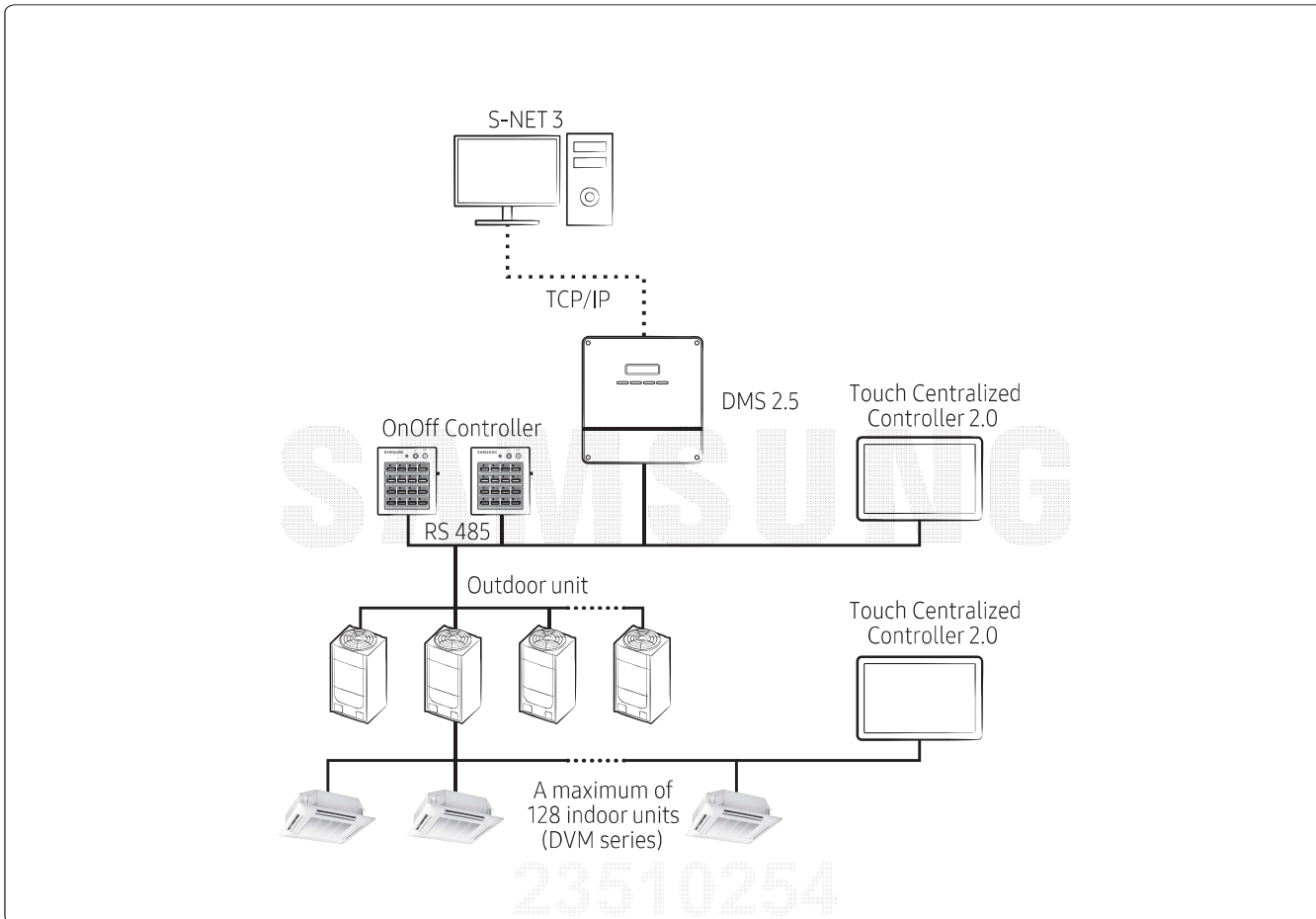
Product specification

Model name		MCM-A300BN
Size (WxHxD)		245.7 x 164.5 x 30.9 mm
Max. number of units that can connect		128 indoor units
Display		10.1-inch capacitive touch display (1280 x 800 pixels)
Memory	RAM	3GB
	Flash	16GB
External ports	DI/DO	2 ports / 2 ports
	SD card slot	1 micro SD slot
	RJ45 (LAN)	1 port (1 Gbps)
	RS485 (NASA)	2 EA
	Installation type	Wall-mount type
Power supply		Supplied through a DC 12 V adapter (AC 100–240 V, 50/60 Hz)
Operating system		Tizen O/S

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Touch centralized controller 2.0 > MCM-A300BN

Connection diagram



Checking the power connection

- 1 Tap on the LCD of the Touch Centralized Controller to turn on the LCD.
- 2 Confirm that the LCD turns on.
 - If the LCD does not turn on, confirm that the power adapter (DC 12 V, 3.34 A) is connected correctly.

Maximum number of units that can connect to the Touch Centralized Controller

Unit	Control unit communication (R1R2)	Indoor-outdoor unit communication (F1F2)
Outdoor unit	32 units (16 units for each 485 channel)	2 units (1 unit for each 485 channel)
Indoor unit (Indoor unit/ERV/Heat Pump)	128 units (128 units for each 485 channel)	128 units (64 units for each 485 channel)

Note

- Maximum number of indoor units that can connect to the indoor-/outdoor-unit communication port
 - A maximum of 64 units can be connected to each 485 channel. Note that the total number of units that can connect to two channels cannot exceed 128.
 - Outdoor units are counted on an individual unit basis.

Touch centralized controller 2.0 > MCM-A300BN

Main function (Control and monitoring)

Grouped control

Use the Home screen to simultaneously control all indoor units, or use the zone screen to simultaneously control the indoor units included within a specific zone.

Setting item	Description	Remarks
All On	Turn on all units	
All Off	Turn off all units	
Set Temp	Indoor unit: Control the target temperature. Heat Pump: Control the target temperature, Water outlet temperature and DHW temperature.	
Mode	Indoor unit: Control the operation mode. ERV (ventilation system): Control the operation mode. Heat Pump: Control the operation mode and DHW mode.	

Individual control

Control and monitor individual indoor units that are connected.

Setting item	Description	Remarks
Power	Indoor unit: Control the power On/Off. ERV (ventilation system): Control the power On/Off Heat Pump: Control the H/C power or DHW power On/Off.	
Temperature	Control the target temperatures for the Indoor unit / Heat Pump.	
Temperature (DHW)	Control the target hot-water-supply temperature for the Heat Pump.	
Wind strength	Control the fan speed	
Air flow	Control the airflow direction	
Mode	Control the operation modes of the Indoor unit / ERV (ventilation system) / Heat Pump.	
Mode (DHW)	Control the hot-water-supply operation mode of the Heat Pump.	
Remote control	Control the remote-control level (Enable/Disable/Conditional)	
Dedicated mode setting	Control the dedicated mode (Cool/Heat/No limits)	
Temperature limits	Set the Cooling/Heating target temperature limit	
Discharge Temperature	Control the discharge temperature	Only applicable to indoor units for which the discharge temperature can be controlled
Filter	Control the reset of filters (e.g. Ultrafine dust filter, Fine dust filter, Washable pre filter)	Only applicable to indoor units for which filters can be controlled individually
Options	Purify/Motion detection/Wind Free/Long Wind/Lighting/Clean/Sleep/Away	Only applicable to indoor units that can be controlled individually

Touch centralized controller 2.0 › MCM-A300BN

- You can select and control a single indoor unit or multiple indoor units.
- Turn on or off an indoor unit by selecting the [Power] button for the unit.
- Select an indoor unit, and control the target temperature, operation mode and other settings.
- The control panel displays the states of the selected units in different ways.
 - If a setting is identical for all units, that setting is displayed.
 - If a setting is different from unit to unit, '--' is displayed.
: If some units are in the On state and other units are in the Off state, 'On' is displayed.

Manage zones

Create zone

- Create a new zone by entering a zone name or selecting from among the provided default zone names.
 - At the top right of the Home screen, tap the [+] button to display the Create zone page.
- After adding a zone, you can move units included in the Unspecified devices zone to the new zone.

Zone name/Change icon and Delete zone

- On the Home screen, touch and hold a zone title to display the zone-management tooltip. Tap the tooltip to redirect to the zone-list page.
- To rename a zone, select a zone name from the zone list and change the name.
- To change a zone icon, select a zone icon from the zone list and change the icon by selecting from among the 16 default icons.
- To delete a zone, select a zone from the zone list and delete it.
 - The units included in a deleted zone automatically move to the Unspecified devices zone.

Rearranging a zone

- Touch and hold the zone to rearrange, and drag and drop it to the desired position.

Touch centralized controller 2.0 > MCM-A300BN

Schedule

Manage the operation settings for indoor units by setting schedules.

- You can set a maximum of 50 schedules.
- If you set an exception day, all schedules assigned to that day do not run.

Create schedule

- Tap the [+] button at the top right of the schedule page.
- Settings required to create a schedule

Item	Description	Remarks
Schedule name	Enter a schedule name.	
Start	Set the start date of the schedule	
End	Set the end date of the schedule	
Exception date	Select (a maximum of 50) exception days when you do not want the schedule to run	
Time	Set the time when the schedule will run	
Days of the week	Select which days of the week (e.g. Mon, Tue, Wed, Thu, Fri, Sat, Sun) the schedule will run	
Select device	You can select zones or devices It is not possible to select the unspecified devices zone or a zone that has no indoor unit	
Actions	Operation settings for indoor units that will be controlled according to the schedule <ul style="list-style-type: none"> • Indoor unit: Power, Setting temperature, Mode, Wind strength, Wind direction, Air flow, Remote control (Enable/Disable/Conditional) • ERV (ventilation system): ERV power, ERV mode, ERV Wind strength, Remote control (Enable/Disable/Conditional) • ERV Plus: Power, Mode, ERV power, ERV mode, ERV Wind strength, Remote control (Enable/Disable/Conditional) • Heat Pump: Power, Mode, Setting temperature, Water outlet temperature, DHW power, DHW mode, DHW temperature, Remote control (Enable / Disable / Conditional) 	The operation feature is only available for setting items supported by the indoor units assigned to the schedule.

Editing a schedule

From the schedule page, tap the schedule to edit, to display the Edit page.

Deleting a schedule

Touch and hold the schedule to delete, to switch to Edit mode. At the bottom right of the page, tap the [Delete] button to delete the schedule.

- Alternatively, at the top right of the schedule page, tap the [Edit] button from the ' ' menu, and then tap the [Delete] button at the bottom right.

Enabling/disabling a schedule

An individual schedule can be enabled or disabled by tapping the toggle switch on the right of the schedule card.

Touch centralized controller 2.0 > MCM-A300BN

History

View the history of errors that occurred in the units connected to the Touch Centralized Controller.

At the top right of the Home screen, select the [History] button from the ' ' menu, to view the error records.

Settings

Display

- Wallpapers

Select images to display on the Home screen and Cover screen.

Basic background images are provided. You can also use custom images by using a micro SD card.

Caution

- To use a custom image, ensure the image file resolution is 1280x800 and the file size does not exceed 10 MB.
- Only images with an extension of PNG, GIF or JPG are supported.
- Images included in the 'wallpaper/images' folder in a micro SD card are displayed, and a maximum of 12 images can be used.

- Brightness

Change the screen brightness in the range of 1% to 100%. The default value is 50%.

- Screen off time

Select from among 15 seconds, 30 seconds, 1 minute, 2 minutes, 5 minutes and 10 minutes. The default value is 1 minute.

Lock

Use this Lock feature when you want to limit access to a specific feature.

- Screen lock type

- Swipe: If the screen has switched off after a specified period of time and a user taps or swipes on the cover screen, the user is redirected to the previously used page.
- Password: If the screen has switched off after a specified period of time and a user taps or swipes on the cover screen, the user is prompted to enter the password before being redirected to the previously used page.
- None: When the screen has switched off, the cover screen does not appear and the previously used page appears.

Caution

- If 30 minutes have elapsed after the screen switched off, the Home screen appears, instead of the previously used page.

- Operation panel lock

Prevent specific items from being controlled by users.

For example, you can prevent the operation mode from being controlled by users.

- Menu lock

Lock specific features in the Touch Centralized Controller, so that users are prompted to authenticate themselves before accessing such features.

If a menu is locked, you can only access the menu after entering the password.

Caution

- The 'Back up and restore' menu is locked by default.

- Set password

To use features for which user access is restricted, such as Tracking and Entire system, users should authenticate themselves by entering the password. There is no initial password. Users can set the initial password before using the Controller for the first time.

Touch centralized controller 2.0 > MCM-A300BN

General management

- Device name: Set the name of the Touch Centralized Controller. (The specified name appears on the cover screen and Home screen and in the device information.)
- Language: Select a language from among Korean, Chinese, Germany, Greek, English, Spanish, French, Italian, Hungarian, Dutch, Portuguese, Polish, Slovak and Turkish.
- Date/Time: Set the date/time of the Touch Centralized Controller. Select whether to display the time in the 24-hour format.
- Summer time: Configure Summer time (daylight saving) settings.

⚠ Caution

- If the date or time is not set correctly, schedules may not run at the intended times.
- Display as address instead of device name: Identify a unit by viewing the unit address, instead of the unit name.
- Reboot TCC 2.0: Restart the Touch Centralized Controller.

⚠ Caution

- To restart, user authentication is required.

System

- Tracking: The Touch Centralized Controller searches for the installation and state information of the units constituting the system. (for a maximum of 30 minutes).
To use this function, user authentication is required.
- Temperature display unit: Select Celsius or Fahrenheit as the unit in which temperature is displayed.
- Temperature control unit: Select 1 or 0.5 as the amount by which the set temperature will be changed. If temperature is displayed in Fahrenheit, the temperature control amount is fixed to 1.
- Heating indoor compensation temperature display: Display the calibrated value as the current temperature in heating mode.
- Level control: In Remote control lock mode, indoor units cannot be controlled from the On/Off controllers or the wired/wireless remote control.
- Silent control: Control indoor units, connected to the Touch Centralized Controller, in mute mode.
- DI pattern: Define the operation rules depending on the DI signal. (Refer to the 'DI patterns' section for details.)

Touch centralized controller 2.0 › MCM-A300BN

Installation

- Initial settings: Configure all basic settings at once when running the Touch Centralized Controller for the first time (or after a full system reset is complete).
 - Setting items: Language, Date and time, Screen lock type and others.
- Tracking: The Touch Centralized Controller searches for the installation and state information of the units constituting the system. (for a maximum of 30 minutes).
To use this function, user authentication is required.

⚠ Caution

- After tracking for the first time, all units are included in the Unspecified devices zone.
Even if tracking is performed after zones are edited by users, the edited zone information is retained.
- Back up and restore: Save all user information, stored in the Touch Centralized Controller, to a micro SD card, and restore by using the saved data. Data restoration requires user authentication.

⚠ Caution

- To use the Back up and restore feature, connect the micro SD card to the Touch Centralized Controller.
- Reset device - Entire system: Delete all user information stored in the Touch Centralized Controller. To use this feature, user authentication is required.

Device information

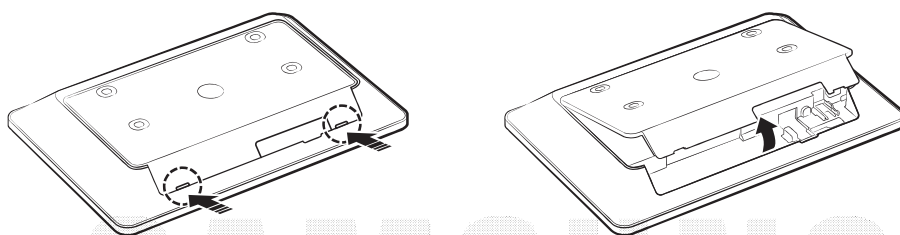
- Device information: Display the following information of the Touch Centralized Controller: Version, MAC address and Model number.
 - This information is displayed when 'Information' is selected from the '⋮' menu at the top right of the Home screen.
- For the open-source-related information, refer to Open Source License on the 'Information' screen.
- User manual: View the user manual as a PDF file.

Touch centralized controller 2.0 › MCM-A300BN

■ Installing the Touch Centralized Controller

⚠ Caution

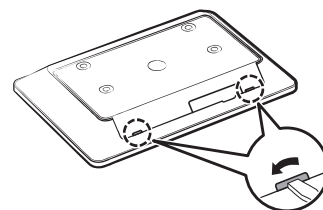
- Do not install the kit in an area where it may be exposed to moisture or impact.
 - Operating temperature: 0 - 40 °C, Operating humidity: 30-90 % (relative)
- 1 Insert a flat-head screwdriver into each of the square grooves at the lower part of the Touch Centralized Controller, turn the screwdriver and then remove the back cover.



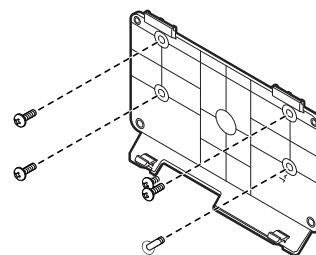
※ Push both latches at the same time.

📄 NOTE

- Use a flathead screwdriver to turn the square hole at the upper part of the fixing hook for easy removal.

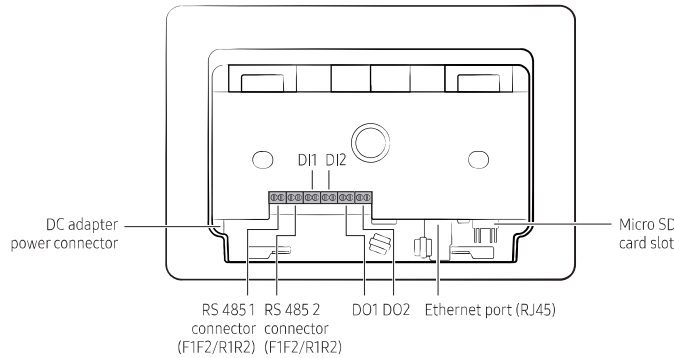


- 2 Use four screws to attach the Touch Centralized Controller wall-mount plate to the wall.



Touch centralized controller 2.0 > MCM-A300BN

- 3 Connect the communication cable to the RS485 connector, the LAN cable to the Ethernet port (RJ45) and the contact-signal cables to the DI/DO connectors.

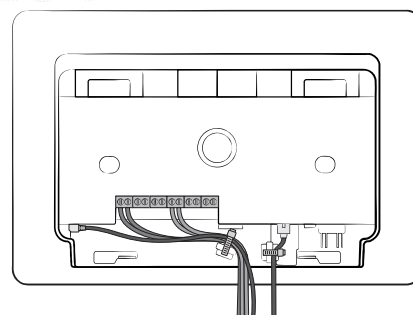
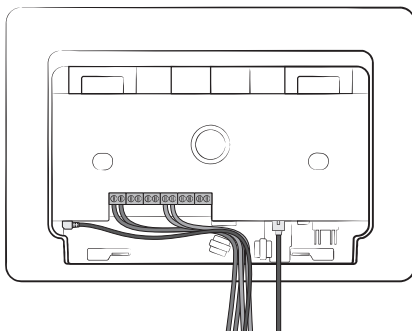


NOTE

- The RS485 channel provides two ports. Connect cables to these ports as required, depending on the installation environment. If you assign many units to a single RS485 channel, the communication speed may decrease. If 64 units or more are installed, assign the units to different channels, to distribute the load.
- The DI and DO connectors are contact connectors that are used by configuring function settings, such as emergency stop and operation. For more information, refer to the details on DI/DO operation pattern settings.
- The Ethernet port is not available. (It will become available after the corresponding function is added through software update.)
- With a micro SD card, you can use the Software update, Back up and restore and Set as wallpaper features.

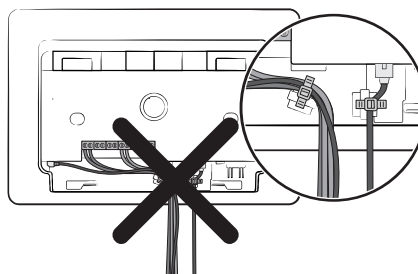
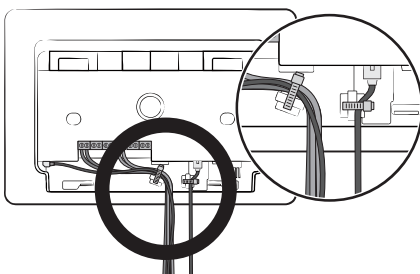
- 4 Tidy up the power and communication cables at the bottom.

- 5 Use the supplied cable ties to fix the cables to the cable clips.



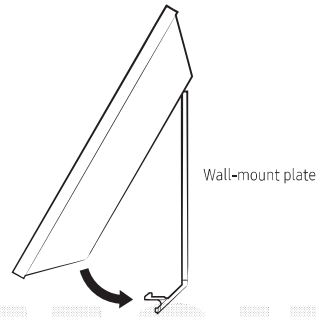
CAUTION

- Ensure that the knots of the cable ties face the side.



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- 6 Hang the Touch Centralized Controller onto the wall-mount plate on the wall, and insert the tab at the bottom of the plate into the slot on the Controller.
 - Make sure to confirm that the bottom tab has been inserted securely, to prevent the Touch Centralized Controller from falling and being damaged.



CAUTION

- It is recommended that the Touch Centralized Controller be installed on a wall, to prevent malfunction and breakage and to ensure safe use.
- 7 Connect the power supply to the power adapter of the Touch Centralized Controller.

Tracking

Tracking is a process of finding indoor/outdoor units connected to the Touch Centralized Controller.

To control or monitor your system-air-conditioner units using the Touch Centralized Controller, you should complete the tracking process.

Use the tracking feature only when the number of connected system-air-conditioner units or the unit model has been changed.

- 1 Connect the power supply, navigate to [Settings] > [System] > [Tracking] and then start tracking.
- 2 Tracking is performed for a maximum of 30 minutes.
 - Tracking may take long if many indoor and outdoor units are connected.
- 3 After the tracking is complete, the connected units are shown on the initial screen.
- 4 To view units the tracking of which is complete, navigate to [Settings] > [System] > [Tracking].
- 5 Indoor units with 'Without central control' selected is locked in the hidden state, in which case the settings for those units cannot be changed.

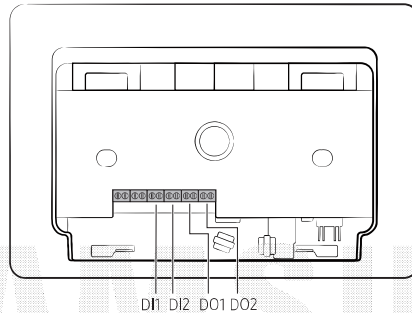
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External contact control for DI ports (optional feature)

DI pattern settings

Configure pattern settings from [Settings] > [System] > [DI pattern].

- DI ports: Connect dry-contact inputs to these ports.



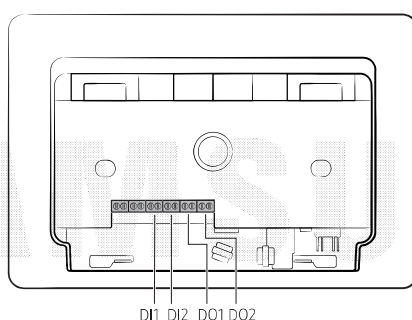
Control patterns

Pattern	Control details
Pattern 1	There is no external input (factory settings state) If a contact-control signal is received through port 1, the Controller does not control anything.
Pattern 2	If a DI-1 ON signal is received, the Controller switches to emergency stop mode. It stops the operations of all indoor units, and sends a command to the indoor units so that they cannot be controlled using the remote control. While in the emergency stop state, issuing control commands by users is prevented. Schedule control also does not work. If the contact-control signal state changes to OFF, control commands are processed normally. (In pattern 2, DI-2 is not used.)
Pattern 3	If a DI-1 ON signal is received, the Controller turns on all indoor units. It turns off all indoor units if a DI-1 OFF signal is received. If a DI-2 ON signal is received, the Controller enables the remote control for all indoor units. It disables the remote control if a DI-2 OFF signal is received.
Pattern 4	The effective pulse width for input signals is 0.5 to 1.0 seconds. Signals with a pulse width of less than 0.5 seconds or of 1.0 seconds or more are ignored. If a pulse contact signal enters DI-1, the Controller sends the ON command to all indoor units. If a pulse contact signal enters DI-2, the Controller sends the OFF command to all indoor units.

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DO ports

- DO 1 operation details: DO output turns on if at least one indoor unit is turned on.
DO output turns off if all indoor units are turned off.
- DO 2 operation details: DO output turns on if at least one unit has an error.
DO output turns off if there is no error in any of the units.
- DO ports: The positive (+) port sends 12 V and the negative (-) port sends Open Collector signals.
The DO ports are driven using a current of 10 mA or less



How to update to micro SD card

- 1 Copy the latest software update file to the micro SD card.

NOTE

- Make sure you format the micro SD card in the FAT32 or FAT16 format, before copying the latest software update file.
- Make sure to use an SD card of class 10 or higher. Lower-class SD cards may have version-recognition errors.

- 2 Insert the micro SD card into the micro SD card slot at the bottom of the Touch Centralized Controller.

NOTE

- Before proceeding to the update, navigate to [Settings] > [System] > [Back up and restore] > [Back up device], and back up the data, just in case of problems during the update.

- 3 Select [Settings] > [System] > [Software update].

- 4 If the software image is correct, select [Start] from the displayed update dialogue box.

- 5 When a message appears that the update is complete, you can use the Controller normally.

NOTE

- After the update is complete, remove the micro SD card.
- If the update has failed, take the following measures:
 - If the file has a problem, change the update image (file).
 - If the micro SD card has a problem, change with a different micro SD card.
 - If the Controller has a problem, replace the Controller.