



BACnet® Gateway  
MIM-B17N

# Air Conditioner installation manual

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EN DB68-03719A(1)

**SAMSUNG**

## Safety Precautions

*This installation manual describes how to install the BACnet Gateway. For installation of other optional accessories, refer to the appropriate installation manual.*



### WARNING

- ◆ Read carefully this installation manual before installation and check if the BACnet Gateway is installed correctly after installation.
- ◆ Do not attempt to install or repair this BACnet Gateway by yourself.
- ◆ This BACnet Gateway contains no user-serviceable parts. Always consult authorized service personnel for repairs.
- ◆ When moving, consult authorized service personnel for disconnection and installation of the BACnet Gateway.
- ◆ Ensure that the wall is strong enough to support the weight of the BACnet Gateway.
- ◆ Must install the BACnet Gateway with rated power supply.
- ◆ The BACnet Gateway must be installed according to the national electrical rules by an installation specialist.
- ◆ If you wish to uninstall the BACnet Gateway, consult an authorized installation center.



### CAUTION

- ◆ Do not use inflammable gases near the BACnet Gateway.
- ◆ Do not install the BACnet Gateway in a location where it will come into contact with combustible gases, machine oil, sulphide gas, etc.
- ◆ Avoid locations where acid/alkali solution or special spray is used.
- ◆ Choose a location that is dry and sunny, but not exposed to direct sunlight. Suitable temperature is between 0°C(32°F) and 39°C(102.2°F).
- ◆ Do not spill water into the BACnet Gateway.
- ◆ Do not apply tensile strength to the cable to avoid cable damage.
- ◆ Do not press the buttons with a sharp object.
- ◆ Do not connect the power cable to the control terminal.
- ◆ If the BACnet Gateway is installed in a hospital or other special places, it should not affect other electronic devices.

※ BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

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## Before Installing the BACnet Gateway

### ■ Checks before installation

#### 1 BACnet Gateway IP

- ◆ A public IP is needed to access the BACnet Gateway over the internet.  
(One public IP is needed for each BACnet Gateway)
- ◆ A private IP may be used if the BACnet Gateway need not be accessed over the internet.

#### 2 Network related equipments

#### 3 Installation connection wire








- ◆ The LAN cable and the communication cables from centralized controllers/interface modules must be installed in such a way that the wires can be connected to the BACnet Gateway with ease.

#### *Note*

- ◆ *The BACnet Gateway is a server and supports static IP. To access the BACnet Gateway through the internet or with BMS System, the BACnet Gateway address, which is the IP address, must be known.*
- ◆ *A static IP service from an internet service provider must be used if xDSL (ADSL, VDSL) is being used for internet connection. (Static IP costs more than dynamic IP.)*
- ◆ *BACnet Gateway should be situated in the same subnet as BMS system.*

## Accessories

Make sure you have each item. Supplied items may vary depending on your country or service provider.

Item	BACnet Gateway	Adapter	Power cable	M4x16 Screw
Quantity	1	1	1	6
Shape				
		User's manual	Installation manual	Cable tie
		1	1	1
				



- ◆ **The BACnet Gateway must be installed by a trained installer.**
- ◆ **Ensure the main power is turned off before installing the BACnet Gateway.**
- ◆ **Be sure to use adapter and power cable we provide.**
- ◆ **The power cable and the communication cable must be installed according to the national electrical wiring regulations.**

## Viewing the Parts

### Main Parts

#### BACnet Gateway Exterior

##### LCD Display

Shows current time and IP address. Various messages will be displayed depending on button input.

##### LCD operation button

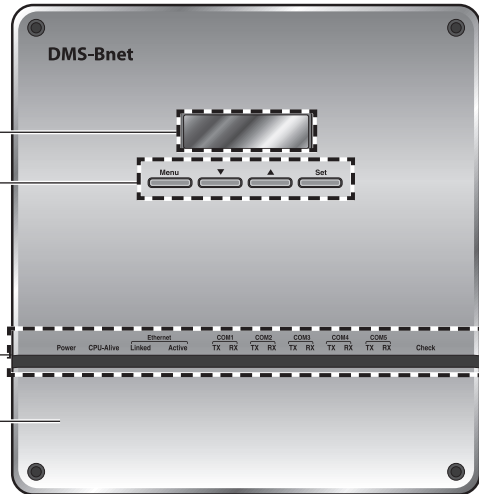
There are 4 buttons(Menu, ▼(Down), ▲(Up), Set) and you can access to menu and move, check the menu.

##### LED Indicator

Check 15 LED status such as Power, CPU-Alive, Ethernet-Linked/Active, COM1~5-TX/RX and Check

##### BACnet Gateway Bottom cover

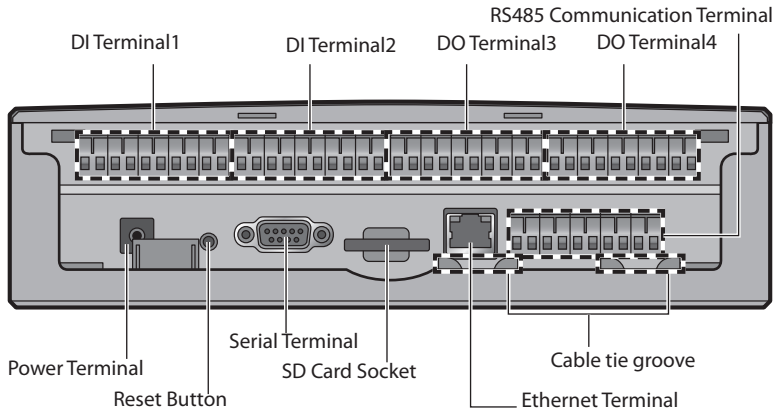
Unfasten 2 screws on the bottom and separate the bottom cover from BACnet Gateway. Then check cable connection part.



#### 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	Channel 1~5 OnOff controller/Outdoor unit Data transmission Indicator	Blinks in green during normal transmission.
COM1~5 - RX	Channel 1~5 OnOff controller/Outdoor unit Data reception Indicator	Blinks in green during normal reception,
Check	Indoor/Outdoor unit/Communication check Indicator	Turns green when notice occurs.

## BACnet Gateway Cable Connection Part

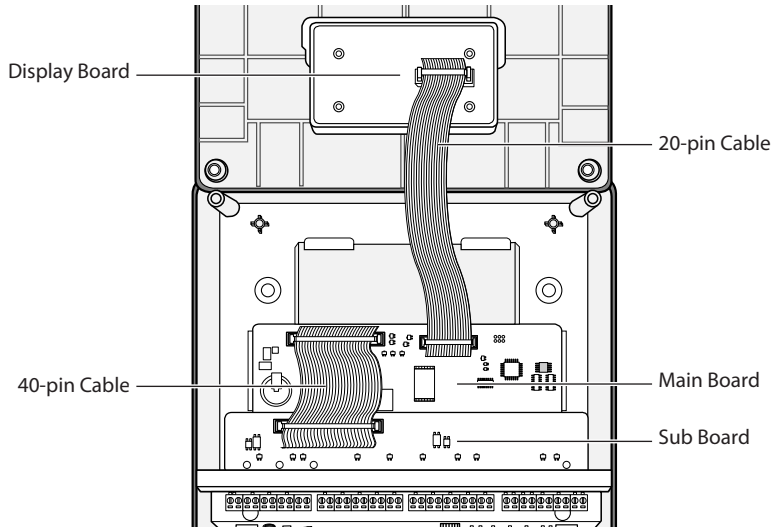


Name	Description
DI Terminal1	Digital Input connection terminal, Channel1~Channel5
DI Terminal2	Digital Input connection terminal, Channel6~Channel10
DO Terminal3	Digital Output connection terminal, Channel1~Channel5
DO Terminal4	Digital Output connection terminal, Channel6~Channel10
Reset Button	Reset BACnet Gateway
Power Terminal	Connect BACnet Gateway adapter
Serial Terminal	Service agent checks BACnet Gateway error status using this terminal
SD card socket	Sub memory (for program update and set information saving) socket
RS485 Communication Terminal	Connect for RS485 communication with devices such as OnOff controller/Outdoor unit -COM1 ~ COM5
Ethernet Terminal	Connect LAN cable
Cable tie groove	Groove for arranging cables

## Viewing the Parts (Continued)

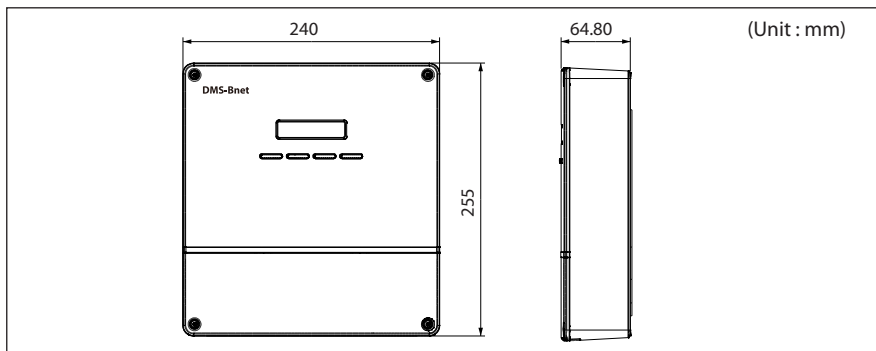
### Main Parts

#### BACnet Gateway Interior

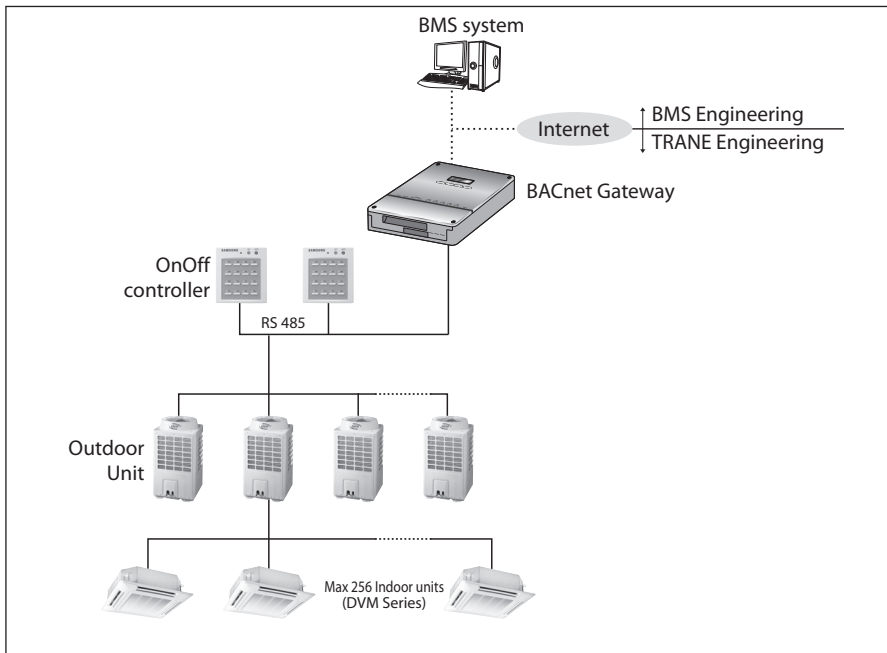


**Note** If you need external circuit configuration, consult with the manufacturer.

## Product Dimensions



## System Architecture



- Connecting outdoor units and BACnet Gateway
  - You can control up to 80 outdoor units and 256 indoor units using BACnet Gateway.
  - \*Each communication channel of BACnet Gateway can be connected with 16 outdoor units.
  - The more outdoor units are connected, the longer time takes for tracking.



- ◆ **For the devices which support new communication, set the communication channel mode on '[System setting]-[Tracking]' menu as 'NEW' and for SIM/PIM which conventional communication is applied, set the communication channel mode as 'IM'. You cannot connect indoor & outdoor unit SET which conventional communication is applied to new communication BACnet Gateway.**
- ◆ **When setting communication channel mode as 'NEW', the address of virtual centralized control will be assigned.**  
**Channel 0: Virtual OnOff controller 11, Channel 1: Virtual OnOff controller 12, Channel 2: Virtual OnOff controller 13, Channel 4: Virtual OnOff controller 14, Channel 5: Virtual OnOff controller 15**

## Compatible Devices

No	Devices	Model	Note
1	Indoor Unit Outdoor Unit	DVM S HR/DVM S HP/DVM MINI outdoor unit and indoor units which can be connected to DVM S HR/DVM S HP/DVM MINI outdoor unit.	-
2	OnOff controller	MCM-A202DN	-
3	SIM	MIM-B12	Needed for EHP power distribution
4	PIM	MIM-B16	Needed for EHP power distribution
5*	Watt-hour Meter	RS485 comm. type	Connected with SIM Needed for power distribution ( Please consult Samsung for compatible power meters)
		Pulse type	Connected with PIM Pulse Width: 20~400(ms) Pulse: 1~10000(Wh/Pulse)

\* Products with '\*' are not Samsung products and must be purchased separately.  
(Only selected power meters may be used for protocol compatibility issues.)

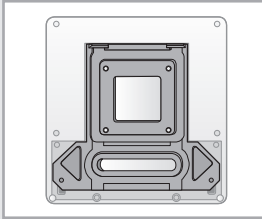
\* Samsung is not responsible for BMS engineering which creates each device and objects.  
For further directions regarding on BMS engineering, consult with specialized BMS related vendor.

## Maximum Devices Attachable

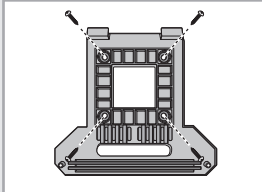
Devices	Max.	Note
Indoor Unit	256	Tracking error occurs if exceeded
OnOff controller	75	Must not exceed 15 units per each RS485 communication terminal
Outdoor unit	80	Must not exceed 16 units per each RS485 communication terminal
SIM/PIM	8	Communication mode : IM
Watt-hour Meter	64	Maximum 8 units can be connected to 1 SIM/PIM.



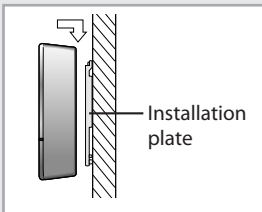
## Installing the BACnet Gateway



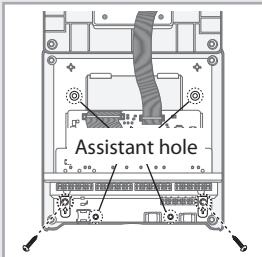
- 1 Separate the installation plate on the rear side of BACnet Gateway.



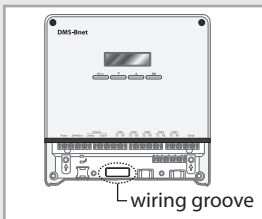
- 2 Fix the installation plate on the wall using 4 screws.



- 3 Hang the BACnet Gateway on the groove which is on the top of the installation plate.



- 4 Fix the installation plate and BACnet Gateway using 2 screws.
  - ◆ Depending on the installation environment, fix BACnet Gateway using assistant holes. (Screws for assistant hole are not provided by our company.)



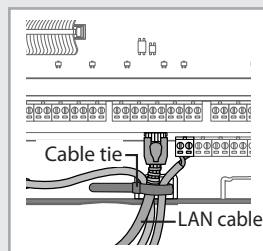
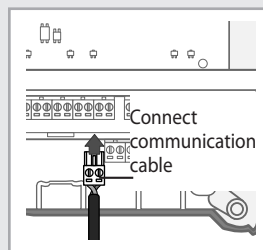
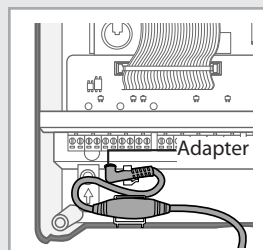
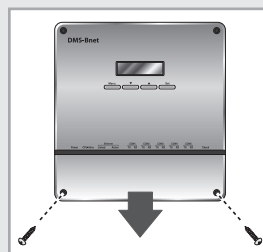
- 5 If you install BACnet Gateway inside of the wall or wiring from the rear side is needed, use wiring groove on the bottom of BACnet Gateway.



**To prevent breakdown and damage of BACnet Gateway, and for safe usage, it is recommended to install BACnet Gateway on the wall.**

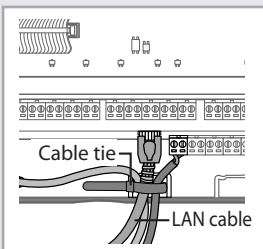
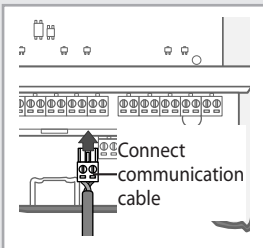
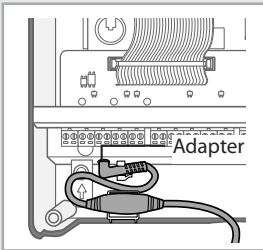
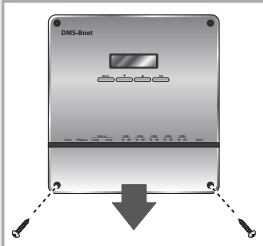
## Connecting Outdoor Unit

- 1 Unfasten the 2 screws on the bottom of the BACnet Gateway front cover. Hold the bottom 2 sides of the BACnet Gateway and push downwards to slide open the cover.
- 2 Connect the adapter to the power terminal.  
◆ Arrange the adapter as the right figure.
- 3 Separate 1 terminal block from 5 terminal blocks which are attached to RS485 communication terminal. Then, connect outdoor unit communication cable(SOL\_COM(R1,R2)) to the terminal block.(R1↔A, R2↔B)
- 4 Connect LAN cable to the Ethernet terminal of BACnet Gateway. Then arrange it using cable tie.
- 5 Fasten the bottom cover of BACnet Gateway and fix it using 2 screws.



**Maximum 80 outdoor units can be connected to one BACnet Gateway.**

## Installing the BACnet Gateway (Continued)



### Connecting SIM/PIM

- 1 Unfasten the 2 screws on the bottom of the BACnet Gateway front cover. Hold the bottom 2 sides of the BACnet Gateway and push downwards to slide open the cover.

- 2 Connect the adapter to the power terminal.  
◆ Arrange the adapter as the left figure.

- 3 Separate 1 terminal block from 5 terminal blocks which are attached to RS485 communication terminal. Then, connect SIM/PIM communication cable (C1, C2) to the terminal block. (C1↔A, C2↔B)

- 4 Connect LAN cable to the Ethernet terminal of BACnet Gateway. Then arrange it using cable tie.

- 5 Fasten the bottom cover of BACnet Gateway and fix it using 2 screws.



**Maximum 8 SIM/PIM units can be connected to one BACnet Gateway.**

## Setting the Computer Environment

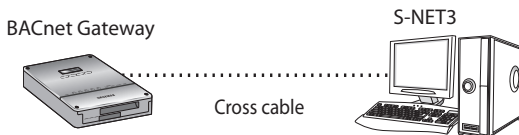
- 1 Device related to network (Purchase separately)
  - ◆ Computer with a LAN Card
  - ◆ HUB or network cable(Cross-Direct cable)
- 2 Computer web browser specification
  - ◆ Internet Explorer 7.0 or later version
  - \* You can use Internet Explorer 6.0 but it is not recommended.

**Note** ◆ A cross cable is used when connecting to PC directly. It is produced as transmission and reception cables are crossed. Cable 1, 2, 3, and 6 are crossed each other.

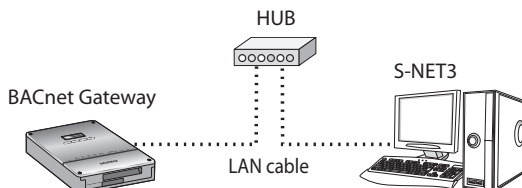
◆ Visit internet homepage (<http://www.microsoft.com/silverlight/>) to download Silverlight. Or you can download it through the download link which is noticed automatically when you access to BACnet Gateway for the first time.

### Connect BACnet Gateway and Computer

#### Connect BACnet Gateway and Computer directly



#### Connect BACnet Gateway and Computer using HUB



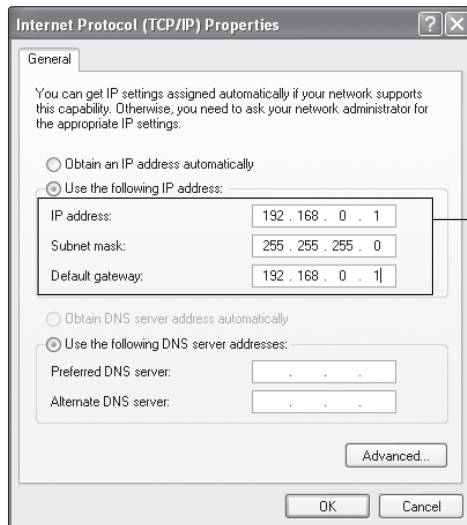
## Setting the Computer Environment (Continued)

### Computer Settings for BACnet Gateway Connection

- All settings of BACnet Gateway will be arranged in web page which built in BACnet Gateway. You should access to BACnet Gateway IP to use BACnet Gateway web page. Set your computer settings as follows.
- BACnet Gateway Factory default setting  
BACnet Gateway IP : 192.168.0.100

### IP Setting (Recommended)

- To access to BACnet Gateway IP, set the network information of BACnet Gateway connected computer as follows.

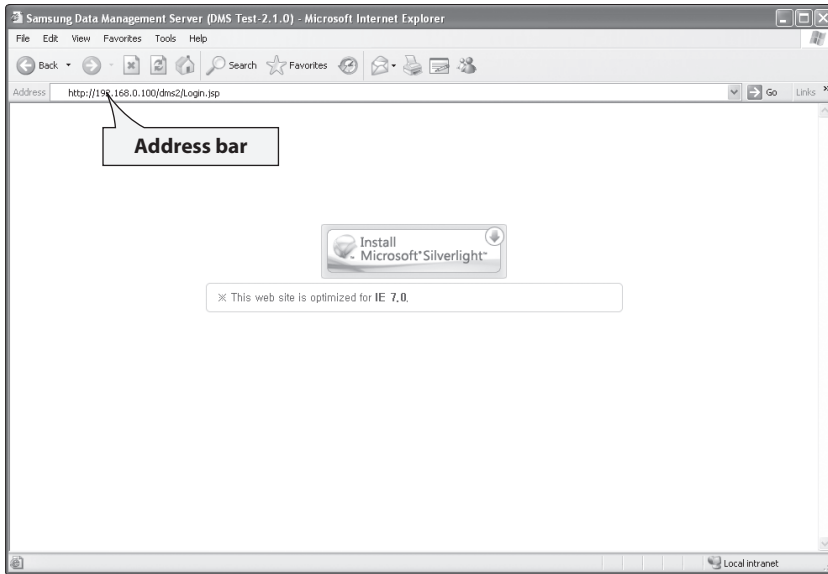



- IP address : 192.168.0.1(~253)  
Except 100
- Subnet mask : 255.255.255.0
- Default gateway : 192.168.0.1

- 1 Select [My network Settings] icon and click [Properties] using right button.
- 2 Select [Local area connection] icon and click [Properties] using right button from the network connection folder.
- 3 [Internet protocol(TCP/IP)] and click [Properties] using right button from the local area connection property window.
- 4 Enter "192,168,0,1" in IP address field, "255,255,255,0" for subnet mask address, and "192,168,0,1" for default gateway.
- 5 Click [OK] after setting.

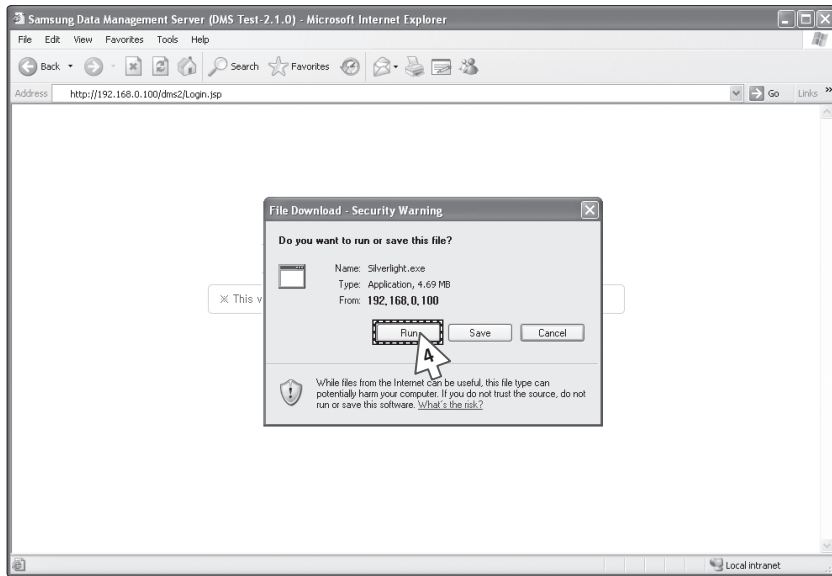
## Setting the BACnet Gateway

### BACnet Gateway Connection and Login



- 1 Click internet explorer icon(  ) twice on your computer.
- 2 When internet explorer window appears, enter IP address (**http://192.168.0.100**) on the address bar then press [ENTER].
- 3 If it is the first time to access BACnet Gateway, "Install Microsoft Silverlight" message will appear.
  - ◆ If Microsoft Silverlight have already installed, the screen will not appear.

## Setting the BACnet Gateway (Continued)



- 4 Click [Run] button and continue installation.  
After installation, access to BACnet Gateway again.



CAUTION

***Silverlight operates normally with Windows XP SP2 or later version. It may not operate normally with previous version of Windows.***



- 5 Enter ID and password when BACnet Gateway main web page appears, Then click [LOGIN].
  - ◆ If you use accounts with general authorization level to login, you cannot use the BACnet Gateway settings.
  - ◆ Depending on authorization level set by the administrator, access to some functions may be restricted.
  - ◆ You can change authorization level settings from **System settings → User authorization management**.
  - ◆ To use the BACnet Gateway functions, you must login with the ID that is included in administration group. Factory default BACnet Gateway ID is 'admin' and password is 'ac0530'.

- Note**
- ◆ *Only authorized users can access to web page.*
  - ◆ *Connection speed may slow down. Fewer than 5 concurrent users are recommended.*
  - ◆ *BACnet Gateway manager should change ID and password for security and management.*
  - ◆ *Logout: If you want to logout, click [LOGOUT] on the top of the menu. BACnet Gateway will be ended.*

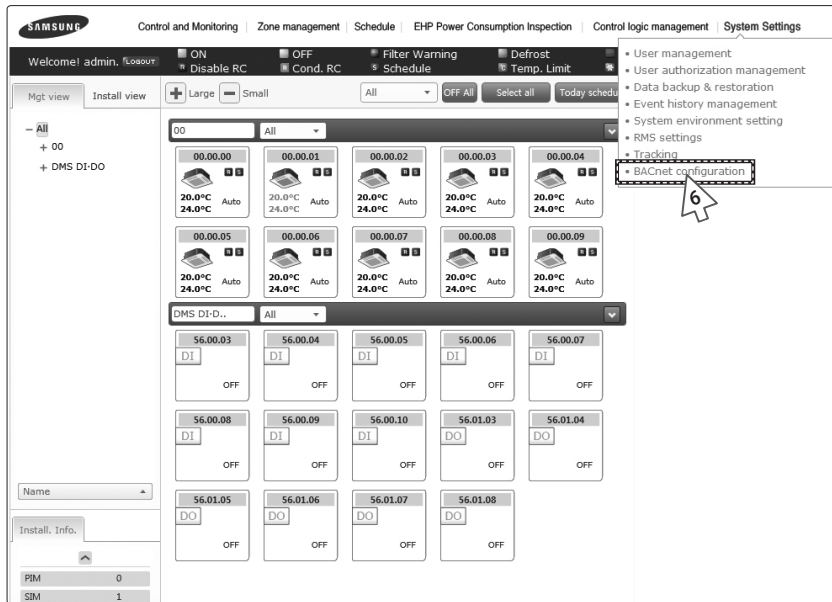


CAUTION

- ◆ *If you use accounts with authorization level lower than management group or accounts with general authorization level, you cannot access BACnet Gateway settings.*
- ◆ *If you cannot access BACnet Gateway, consult the manager.*



## Setting the BACnet Gateway (Continued)



- 6 If you login successfully, 'Control and Monitoring' screen will appear.  
Click [System Setting]→[BACnet configuration] menu to switch to BACnet Gateway.



- ◆ ***If you use accounts with authorization level lower than management group or accounts with general authorization level, BACnet configuration will not be displayed on the menu.***
- ◆ ***If the BACnet configuration menu does not appear, consult the manager.***

SAMSUNG Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | System Settings | **DMS2 Connect**

Welcome! admin, logout

Device configuration

DVM Tracking Disconnect all devices

SIM / PIM 0 EA	On/Off controller 0 EA	Outdoor unit 1 EA	Indoor unit 11 EA
Communication mode by channel			
Channel 0	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 1	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 2	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 3	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 4	<input type="radio"/> NEW <input checked="" type="radio"/> IM		

\* The communication mode of a channel where the device is connected cannot be changed. Edit Save

Channel	Device	Address	Name	Object ID	Error
CH0	On/Off controller	11	CAUR-11	901164	
	Outdoor unit (000.016.001.000)	11.01.00	11.01.00		
	Indoor unit (000.032.001.001)	11.01.01 (255)	11.01.01	957701	

- 7 If you access BACnet Gateway, 'Device Configuration' screen will appear initially.
  - ◆ If you click [DMS2 Connect] button, screen will be switched to initial screen.

## Reading EHP Watt-hour Meter

### Setting and checking watt-hour meter

Setting and checking watt-hour meter

SIM / PIM Channel	Name	CT proportion	Watt-hour meter value (kWh)
16.1	16.1	1	2.0
16.2	16.2	1	2.0
16.3	16.3	1	2.0
16.4	16.4	1	2.0
16.5	16.5	1	2.0
16.6	16.6	1	2.0

Edit Save

- Click [System and Checking Watt-hour meter].
  - ◆ You can change settings on watt-hour meter only when SIM/PIM interface module is connected.
- Click [Edit] from the 'Setting and checking Watt-hour meter' screen.
  - ◆ CT proportion is set to '1' as factory default value.
- Set the [Name] and [CT proportion] for the watt-hour meter.
  - ◆ You can use maximum 16 letters for name and only available special characters are ".", ",", "-", "\_", and "space".
  - ◆ Value for CT proportion should be integer between range of 1 ~ 5000.
- Click [Save].
  - ◆ CT proportion value will be saved to the BACnet Gateway.
  - ◆ If you do not click [Save] changed setting will not be saved.
- Watt-hour meter value will display the actual value of electricity on the corresponding watt-hour meter. Value will be updated automatically.



**When using CT watt-hour meter, be careful that there can be difference with actual power consumption as much as CT ratio error.**

## Monthly baseline setting

- 1 Click [System and Checking Watt-hour meter].
- 2 Click [Edit] from the 'Monthly baseline setting' screen.  
◆ You can make changes when list box enables.
- 3 Set the Monthly baseline setting.  
◆ You can select from 1~31.  
◆ If you select the last day of the month, it will automatically set the last day of corresponding month as baseline.  
Ex) Last day of February: 28<sup>th</sup> or 29<sup>th</sup>
- 4 Click [Save].  
◆ Changed settings will be saved to the BACnet Gateway.  
◆ If you do not click [Save] changed setting will not be saved.

## Reading EHP Watt-hour Meter (Continued)

### Period setting

SAMSUNG Device Configuration **System and Checking Watt-hour Meter** Channel setting by indoor unit System Settings DMS2 Connect

Welcome! admin. [LOGOUT] Setting and checking watt-hour meter

Setting and checking watt-hour meter

Monthly baseline setting

Monthly 28 [v] [x] Edit Save

Period setting(Max 90 days)

☒ 1 days ☐ 1 month Edit Save

- 1 Click [System and Checking Watt-hour meter].
- 2 Click [Edit] from the 'Period setting' screen.
  - ◆ You can select checkbox to set period in daily or monthly unit.
  - ◆ If you select daily period setting, text box will be enabled and you can enter the period in daily unit.
  - ◆ If you select monthly period setting, you can select the period in monthly unit.
- 3 Set the period
  - ◆ If you set period in daily unit, you can set up to maximum 90 days.
  - ◆ If you set period in monthly unit, you can set up to maximum 1 months.
- 4 Click [Save].
  - ◆ Changed setting will be saved to BACnet Gateway.
  - ◆ If you do not click [Save], changed setting will not be saved.

## Channel setting by indoor unit

- 1 Click [Channel setting by indoor unit].
- 2 Click [Edit] from the 'Channel setting by indoor unit' screen.
- 3 Check the address and the channel information of the SIM/PIM interface module which is connected to the watt-hour meter.
  - ◆ If the SIM/PIM interface modules with addresses 0 ~ 7 executes tracking, it will be displayed as 16~23 in BACnet Gateway.
  - ◆ Below table shows the channel information of the terminal which SIM and watt-hour meter is connected. (Terminal block 1 is on the most left side in SIM.)

Terminal block Location	Terminal block 1	Terminal block 2	Terminal block 3	Terminal block 4
Top part	1	2	3	4
Bottom part	5	6	7	8

  - ◆ PIM: Channel 1 is on the most left side and 8 channels are arranged in a line.
- 4 Check the information of indoor/outdoor unit which is connected to watt-hour meter.

## Reading EHP Watt-hour Meter (Continued)

- 5 Check the SIM/PIM interface module channel (Watt-hour meter) information of indoor/outdoor unit.
  - ◆ You can set the channel when SIM/PIM interface module is installed in BACnet Gateway.
  - ◆ When the indoor unit's power is supplied from outdoor unit, set the 'Outdoor unit SIM/PIM channel' information only. ('Outdoor unit SIM/PIM channel' is referring to watt-hour meter which is connected to outdoor unit.)
  - ◆ When the indoor unit's power is supplied from source other than outdoor unit, set the 'Outdoor unit SIM/PIM channel' and 'Indoor unit SIM/PIM channel' information. ('Indoor unit SIM/PIM channel' is referring to watt-hour meter which is connected to indoor unit.)
  - ◆ Power distribution will be executed automatically. User does not need to check the value of watt-hour meter.
  - ◆ The maximum number of SIM channels for an outdoor unit is 4.
- 6 Set indoor unit to execute power distribution.
  - ◆ If you do not set the watt-hour meter information, the power distribution result of the indoor unit will be displayed as '0'.
- 7 Click [Save].
  - ◆ Changed setting will be saved to BACnet Gateway.
  - ◆ If you do not click [Save] changed setting will not be saved.



CAUTION

- ◆ **Information of watt-hour meter connected to indoor/outdoor unit should be accurate. If the watt-hour meter information is not accurate upon setting the channel information of indoor unit, error may occur in the power distribution result.**
- ◆ **You must set SIM/PIM channel information in the indoor unit if you want to execute power distribution. If not, it means that you do not execute power distribution and the power distribution result of the indoor unit will be '0'.**
- ◆ **If the information of watt-hour meter connected to indoor/outdoor unit is changed, consult with installation enginner.**
- ◆ **BACnet Gateway executes power distribution based on set information.**

## System Setting Initialization

- 1 Press [Menu], [▲], [▼] or [Set] from the screen where IP and current time is displayed.
  - ◆ Main menu screen appears.
  - ◆ Initialization is not possible in the screen where time information is displayed.

192.168.0.100  
06:12:13(AM)

- 2 Press [Menu] → [▼] → [▲] → [▼] buttons in order from the main menu screen.
  - ◆ Caution will be displayed on LCD Display.

MAIN MENU  
1.IP Config

- 3 Initialize BACnet Gateway by clicking [Set] when caution phrase appears.
  - ◆ If you press [Menu] button, system will return to main menu without initialization.

Are you sure?  
YES:Set, NO:Menu



CAUTION

**When initializing system setting, all saved data in BACnet Gateway will be deleted. After initialization, you must aware that the saved data and IP address will be reset to default factory setting.**



## System Settings

- ◆ You can set and check information about BACnet Gateway installation and operation.

### BACnet Gateway network information

SAMSUNG Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | **System Settings** | DMS2 Connect

Welcome! admin. | Logout | System Settings

**System Settings**

BACnet network information

IP 168.219.145.208	Subnet mask 255.255.255.0
Default gateway 168.219.145.1	DNS server 0.0.0.0
Network No. 9	

Edit Save

- 1 Click [System Settings].
- 2 Click [Edit] from the 'BACnet network information' section.

SAMSUNG Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | System Settings | DMS2 Connect

Welcome! admin. | Logout | System Settings

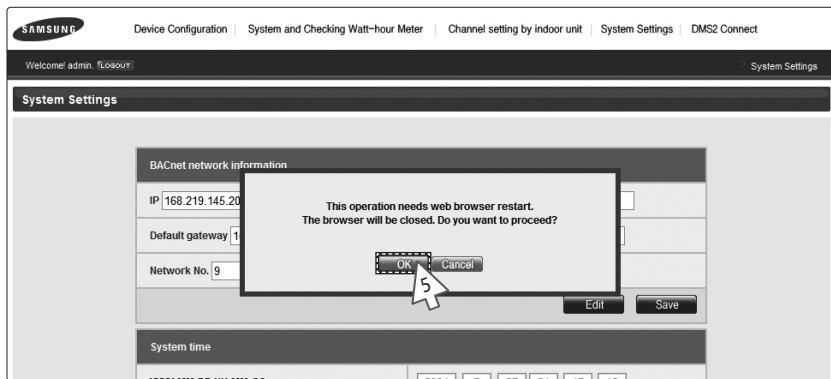
**System Settings**

BACnet network information

IP 168.219.145.208	Subnet mask 255.255.255.0
Default gateway 168.219.145.1	DNS server 0.0.0.0
Network No. 9	

Edit Save

- 3 When text boxes of IP, Subnet mask, Default gateway, Network No. and DNS server are enabled. Enter values for each item.
  - ◆ 15 letters can be entered for each item.
  - ◆ Each item should match with the network address form.
  - ◆ You can enter from 1 to 40 for Network No.
  - ◆ If you want to use multiple BACnet Gateway in the same network, you should set up "Network No." differently.
- 4 Click [Save] button on the 'BACnet network information' section.



- 5 When the pop-up window appears, click [OK].
- 6 If you click [OK], current internet explorer will be closed. Then you may run the web browser again and access to BACnet Gateway by entering the IP set and saved manually.

**Note**

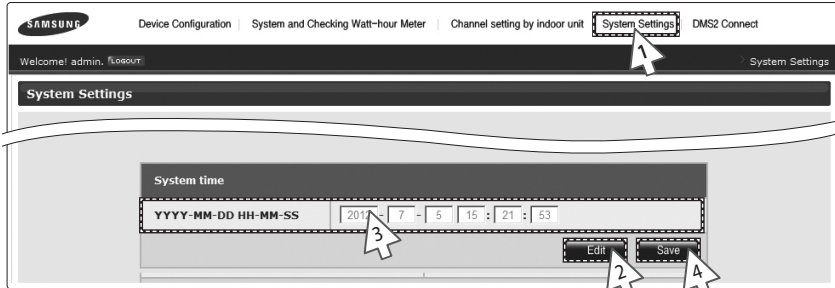
◆ **Factory setting is as follows.**

1. **IP address: 192.168.0.100**
2. **Subnet mask: 255.255.255.0**
3. **Default gateway: 192.168.0.1**
4. **DNS server: 0.0.0.0**

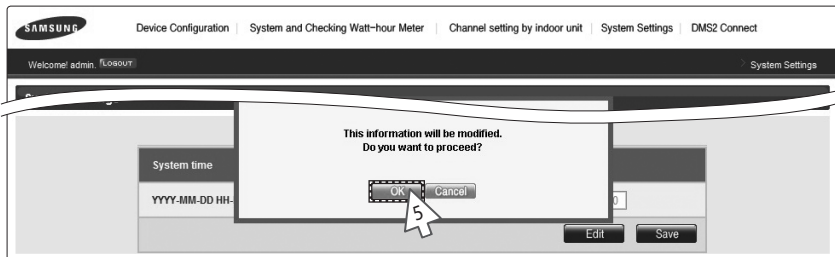
- ◆ **Since BACnet Gateway sets 192.168.0.254 as engineering IP internally, it should be always available regardless of current IP.**

## System Settings (Continued)

### System time



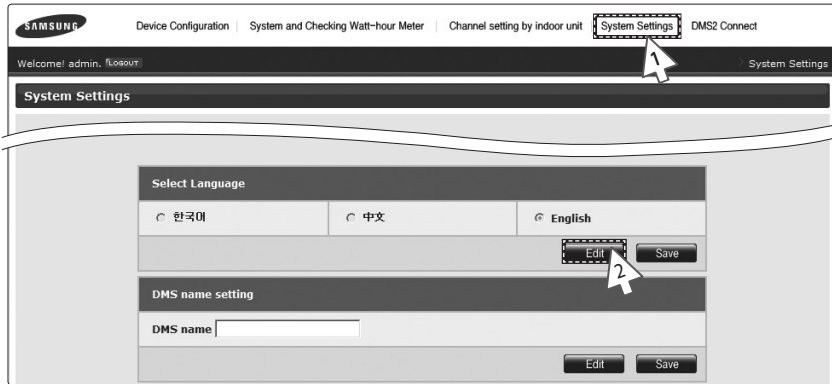
- 1 Click [System Settings].
- 2 Click [Edit] from the 'System time' section.
- 3 Enter system time when text boxes enables.
  - ◆ You can only enter numbers.
  - ◆ Year: You can enter from 1980 to 2035.
  - ◆ Month: You can enter from 1 to 12.
  - ◆ Day: You can enter from 1 to 31.
  - ◆ Hour: You can enter from 0 to 23.
  - ◆ Minute: You can enter from 0 to 59.
  - ◆ Second: You can enter from 0 to 59.
- 4 Click [Save] button on the 'System time' section.



- 5 When the pop-up window appears, click [OK].
  - ◆ When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'System Settings' screen appears again with all items disabled.

**Note** System time reflects set current value.

## Selecting the language



- 1 Click [System Settings].
- 2 Click [Edit] from the 'Select language' section.
- 3 Select a language you want and click [Save].
- 4 When the pop-up window appears, click [OK]. BACnet Gateway will restart and the system will be changed to selected language.

## System Settings (Continued)

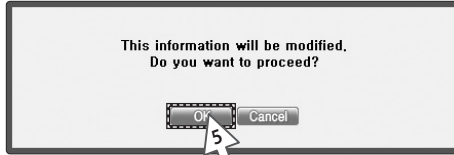
### BACnet Gateway Name Setting

The screenshot displays the Samsung BACnet Gateway System Settings web interface. The top navigation bar includes links for Device Configuration, System and Checking Watt-hour Meter, Channel setting by indoor unit, System Settings (highlighted with arrow 1), and DMS2 Connect. Below the navigation bar, the 'System Settings' section is active. It contains four main configuration areas:
 

- BACnet network information:** Fields for IP (10.240.232.84), Subnet mask (255.255.255.0), Default gateway (10.240.232.1), DNS server (10.32.192.11), and Network No. (36). Edit and Save buttons are present.
- System time:** A date and time picker showing 2012-7-5 15:21:53. Edit and Save buttons are present.
- DMS name setting:** A section with a 'DMS name' input field (indicated by arrow 3) and Edit (indicated by arrow 2) and Save buttons.
- Select the contact control pattern:** Radio buttons for Pattern1, Pattern2, Pattern3, and Pattern4. Edit and Save buttons are present.

 Arrows and numbers 1 through 4 indicate the sequence of steps for setting the BACnet Gateway name.

- 1 Click [System Settings].
- 2 Click [Edit] from BACnet Gateway name setting window.
- 3 Enter name of BACnet Gateway when BACnet Gateway name field enabled.
  - ◆ You can use maximum 30 letters including English alphabets and special symbols.
  - ◆ When BACnet Gateway name is set, the name will be displayed on the top title bar of web browser.
- 4 Click [Save] after setting is completed.



- 
- 5 Click [OK] when "This information will be modified. Do you want to proceed?" message window appears.
- 
- 6 "Reading data from BACnet Gateway. Please wait." message appears and saving is completed. Afterwards, system environment setting screen appears again as all items are disabled.
    - ◆ You can check new BACnet Gateway name on the title bar of web browser.
- 

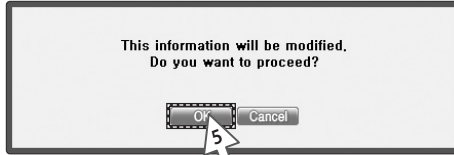
**Note** *Name of BACnet Gateway is set to blank as factory default.*

## System Settings (Continued)

### ■ Error Mail Forwarding Setting

The screenshot shows the Samsung System Settings interface. At the top, there is a navigation bar with 'System Settings' highlighted. Below this is a 'System environment setting' header. The main content area is divided into sections. The 'DMS name setting' section has a 'DMS name' field and 'Edit' and 'Save' buttons. The 'Error mail forwarding' section has two radio buttons: 'Apply' and 'Not apply'. The 'Not apply' option is selected. Below these are fields for 'ID', 'E-mail', and 'SMTP server'. Arrows labeled 1, 2, 3, and 4 point to the 'System Settings' menu, the 'Edit' button, the 'Not apply' radio button, and the 'Save' button respectively.

- 1 Click [System Settings].
- 2 Click [Edit] from error mail forwarding setting.
- 3 Set all the items as the value you want when all items fields are enabled.
  - ◆ If you select 'Apply', you should enter e-mail address, SMTP server ID, password, and SMTP server address.
  - ◆ If you select 'Not apply', E-mail, ID, PW and SMTP server items will not affect.
- 4 Click [Save] after setting is completed.



- 
- 5 Click [OK] when "This information will be modified. Do you want to proceed?" message window appears.
- 
- 6 "Reading data from DMS2. Please wait." message appears and saving is completed. Afterwards, system environment setting screen appears again with all items are disabled.
- 

**Note** In factory setting, 'Not apply' is checked and item fields (E-mail, ID, PW, SMTP server) are blank.



## System Settings (Continued)

### Setting Public IP of upper controller

SAMSUNG Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | **System Settings** | DMS2 Connect

Welcome! admin, 10.0.0.1

System Settings

**System Settings**

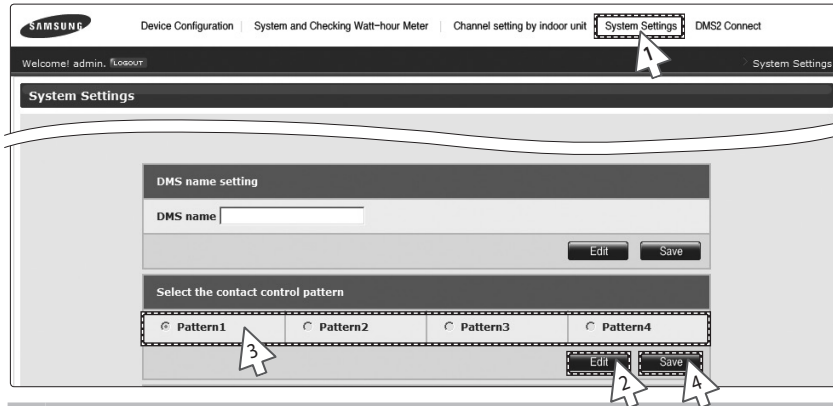
Public IP of upper controller		
IP 10.240.232.42	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply
IP	<input checked="" type="radio"/> Apply	<input type="radio"/> Not apply

2 3

- 1 Click [System Settings].
- 2 Click [Edit] when Public IP of upper controller screen appears.
- 3 Enter the public IP of upper controller and select either 'Apply' or 'Not apply'.
- 4 Click [Save].
  - ◆ When the setting is done, you may access BACnet Gateway from upper controllers (S-NET3, S-NET mini).

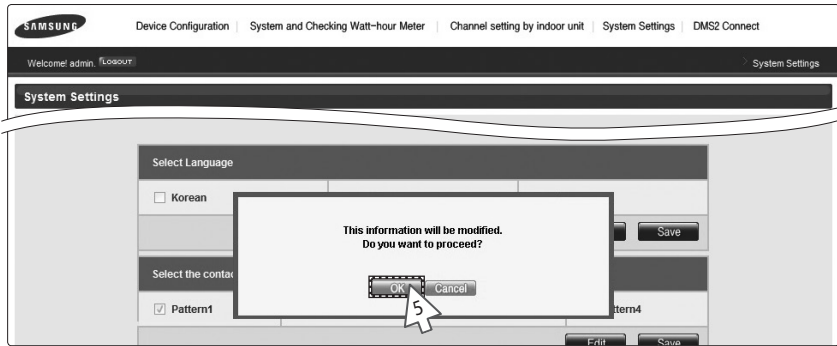
**Note** *If the upper controller uses Public IP, you must set the Public IP of upper controller to access BACnet Gateway from those upper controllers. If the upper controller uses private IP, you may access BACnet Gateway from those upper controllers without setting the Public IP of upper controller.*  
 Private IP range: 10.0.0.0 ~ 10.255.255.255, 172.16.0.0 ~ 172.31.255.255, 192.168.0.0 ~ 192.168.255.255

## Selecting the contact point control pattern



- 1 Click [System Settings].
- 2 Click [Edit] from the 'Select the contact point control pattern' section.
- 3 Select the pattern you want to check when checkboxes enables.
  - ◆ Pattern 1[No external input]: No operation will be made when inputting contact point control signal.
  - ◆ Pattern 2[Level (Emergency stop)]: Commands to stop all operation of indoor unit (except DDC) and disable remote control when inputting contact point control signal.  
In level emergency stop status, it will not be controllable even if the command is from upper controller.
  - ◆ Pattern 3[Level (Operation/Stop)]: Level signal input timing. It changes operation/stop status of all indoor units.
  - ◆ Pattern 4[Pulse (Operation/Stop, Disable/Enable)]: Pulse signal. It changes operation/stop status of all indoor units.
- 4 When pattern is selected, click [Save].

## System Settings (Continued)



- 5 When the pop-up window appears, click [OK].
  - ◆ When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'System Settings' screen appears again with all items disabled.

**Note** Contact point control pattern is set to pattern 1 as factory default.



**For extension purpose, BACnet Gateway has total of 10 DI/DO ports. Contact control and output function is assigned to Ch1 and Ch2. Ch3~Ch10 will be assigned to additional functions. For proper contact control, connect with Ch1 and Ch2.**

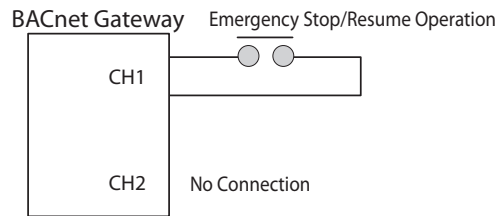
## Contact point control pattern

Pattern	Control
Pattern1	<p>▶ No external input (Factory default setting) When you input contact control signal in port 1, there will be no response.</p>
Pattern2	<p>▶ Level input (Emergency stop)</p> <ol style="list-style-type: none"> <li>1. If the contact control signal is changed to ON, emergency stop status and all the indoor units are given 'Stop' command, and controlling using remote controller is impossible.</li> <li>2. During the emergency stop, the BACnet Gateway will ignore any request from the upper controllers.</li> <li>3. During the emergency stop, the BACnet Gateway will ignore previously set schedules.</li> <li>4. When the contact control signal changes from ON to OFF, DVM goes into normal operation status and returns to the remote control status before emergency stop.</li> <li>5. Even if the contact control signal of port 1 changes from ON to OFF, there will be no change to the indoor unit.</li> <li>6. When you input contact control signal in port 2, there will be no response.</li> </ol>
Pattern3	<p>▶ Level input (Operation/Stop, Remote control Enable/Disable)</p> <ol style="list-style-type: none"> <li>1. If the contact signal of port 1 changes from OFF to ON, all indoor units will be given 'Operation' command.</li> <li>2. If the contact signal of port 1 changes from ON to OFF, all indoor units will be given 'Stop' command.</li> <li>3. If the contact signal of port 2 is OFF, you cannot control all indoor units using remote controller.</li> <li>4. If the contact signal of port 2 changes from OFF to ON, you can control all indoor units using remote controller.</li> <li>5. If the contact signal of port 2 changes from ON to OFF, you cannot control all indoor units using remote controller.</li> <li>6. Control command from the upper controller will be operated regardless of the contact point status.</li> <li>7. DVM system control using Schedule control will be operated regardless of the contact point status.</li> </ol>
Pattern4	<p>▶ Pulse input (Operation/Stop)</p> <ol style="list-style-type: none"> <li>1. Valid pulse duration for input signal is 0.5~1.0 second. BACnet Gateway ignores the signal which has shorter than 0.5 second duration, longer than 1.0 second Pulse width.</li> <li>2. When Pulse input signal is ON in Port 1. all indoor units will be given 'Operation' command.</li> <li>3. When Pulse input signal is ON in Port 2. all indoor units will be given 'Stop' command.</li> <li>4. DVM control command from the upper controller will be operated regardless of Pulse input signal.</li> <li>5. DVM system control using Schedule control will be operated regardless of Pulse input signal.</li> </ol>

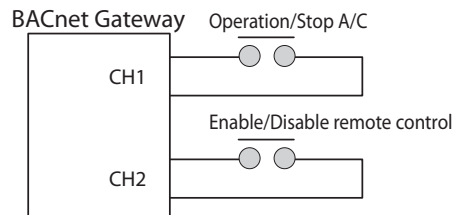
## System Settings (Continued)

### DI(Digital Input) Circuitry according to Control Switch Pattern

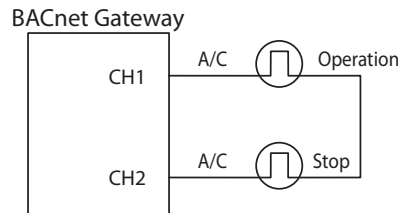
- Pattern 2 (May be used for connection with a fire sensor)



- Pattern 3 (External contact signal control)



- Pattern 4 (Pulse signal control)



## BACnet gateway information

**SAMSUNG** Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | **System Settings** | DMS2 Connect

Welcome! admin, (Logout) System Settings

**System Settings**

BACnet gateway information	
Object_Identifier	3690064
Object_Name	Samsung DVM Gateway
Object_Type	DEVICE
Vendor_Name	Samsung Electronics CO., Ltd.
Vendor_ID	200
Model_Name	MIM-B17
Firmware_Revision	1.20
Application_Software_Version	1.20
Protocol_Version	1
Protocol_Revision	2
MAX_APDU_Length_Accepted	1476
Segmentation_Supported	NO_SEGMENTATION
APDU_Timeout	3000
Number_Of_APDU_Retries	3
Recipient_List Initialize	<input type="checkbox"/>

**Edit** **Save**

- 1 Click [System Settings].
- 2 You can check the basic BACnet gateway information from 'BACnet gateway information' section.
- 3 Click [Edit] from the 'BACnet gateway information' section.
- 4 If you want to initialize 'Recipient\_list', Check and click [Save].
- 5 When the pop-up window appears, click [OK]. BACnet Gateway will restart and the system will initialize 'Recipient\_list'.

## Tracking

### ◆ What is tracking?

Tracking is an operation that finds devices connected to BACnet Gateway.

Through tracking operation, devices will be recognize if they are connected to BACnet Gateway.

To supervise and control system air conditioner using BACnet Gateway, tracking should be done first.

### ◆ Things you can do through tracking

Checking the number of devices installed, setting communication mode for each channel, DVM tracking, Renaming and setting ports is possible through tracking.

### ◆ Execute tracking

(1) Connect DVM device to COM1~COM5.

(2) Set communication mode for each channel.

- Set proper communication mode which fits to the devices connected in step (1).

- Be aware that if communication mode is not properly set, the device may not be found through tracking.

(3) Execute tracking - Execute DVM tracking.

- DVM tracking is an operation that finds system air conditioner devices such as indoor/outdoor unit and watt-hour meter.

(4) Setting name for each device.

- You can set name for connected device. Set the names to help you recognize the location of the device easily.

### ◆ Communication mode setting for each channel

Roles

- It records what devices are connected to COM1~ COM5 of BACnet Gateway.

- Through tracking, BACnet Gateway searches proper devices that fits to user's setting.

- Select proper communication mode which fits to connected device.

What is communication mode?

- You can connect an outdoor unit, centralized controller, SIM interface module, Watt-hour interface module and DDC devices to BACnet Gateway.

- BACnet Gateway can use only the device assigned for each COM port.

- Communicational devices by communication mode is as follows.

▶ IM mode: SIM/PIM which only supports conventional communication mode.

▶ NEW mode : OnOff controller and outdoor units which supports new communication mode.



CAUTION

**BACnet gateway will automatically assign the instance number of a device or object according to the tracking result.**

**When the indoor unit address is changed by tracking, check the device information again in the man machine interface (MMI) since the instance number can also be changed.**

## Setting communication mode for each channel

Device Configuration

System and Checking Watt-hour Meter | Channel setting by indoor unit | System Settings | DMS2 Connect

Welcome! admin, logout

Device configuration

DVM Tracking Disconnect all devices

SIM / PIM 0 EA	On/Off controller 0 EA	Outdoor unit 1 EA	Indoor unit 11 EA
Communication mode by channel			
Channel 0		<input checked="" type="radio"/> NEW <input type="radio"/> IM	
Channel 1		<input checked="" type="radio"/> NEW <input type="radio"/> IM	
Channel 2		<input checked="" type="radio"/> NEW <input type="radio"/> IM	
Channel 3		<input checked="" type="radio"/> NEW <input type="radio"/> IM	
Channel 4		<input type="radio"/> NEW <input checked="" type="radio"/> IM	

\* The communication mode of a channel where the device is connected cannot be changed.

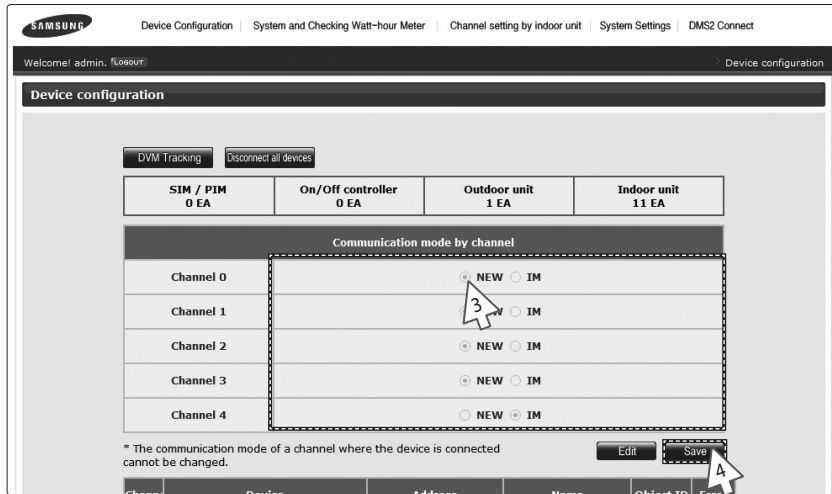
Edit Save

Channel	Device	Address	Name	Object ID	Error
---------	--------	---------	------	-----------	-------

- 1 Click [Device Configuration].
- 2 Click [Edit] from the 'Communication mode by channel' screen.
  - ◆ [Edit] button will be switched to [Cancel].
  - ◆ All selection buttons will be enabled. However, the channels with searched device maintain its button in disabled status.



## Tracking (Continued)



- 3 When each channel is enabled, check the communication mode you want to set for each channel.
  - ◆ You cannot change the communication mode of channel which has currently connected device.
  - ◆ When 'NEW' is set as communication mode, setting will allow tracking, monitoring and controlling devices that support NEW communication mode.
  - ◆ When 'IM' is set as communication mode, setting will allow tracking, monitoring and controlling SIM/PIM.
- 4 Click [Save] after setting is completed.
  - ◆ If you click [Cancel], check boxes will be disabled and [Cancel] button will switch to [Edit].
- 5 When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'System Environment Setting' screen appears again with all items disabled.

## DVM Tracking

SAMSUNG

Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | System Settings | DMS2 Connect

Welcome! admin, [Logout]

Device configuration

Device configuration

DVM Tracking | Disconnect all devices

	On/Off controller 0 EA	Outdoor unit 1 EA	Indoor unit 11 EA
Communication mode by channel			
Channel 0	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 1	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 2	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 3	<input checked="" type="radio"/> NEW <input type="radio"/> IM		
Channel 4	<input type="radio"/> NEW <input checked="" type="radio"/> IM		

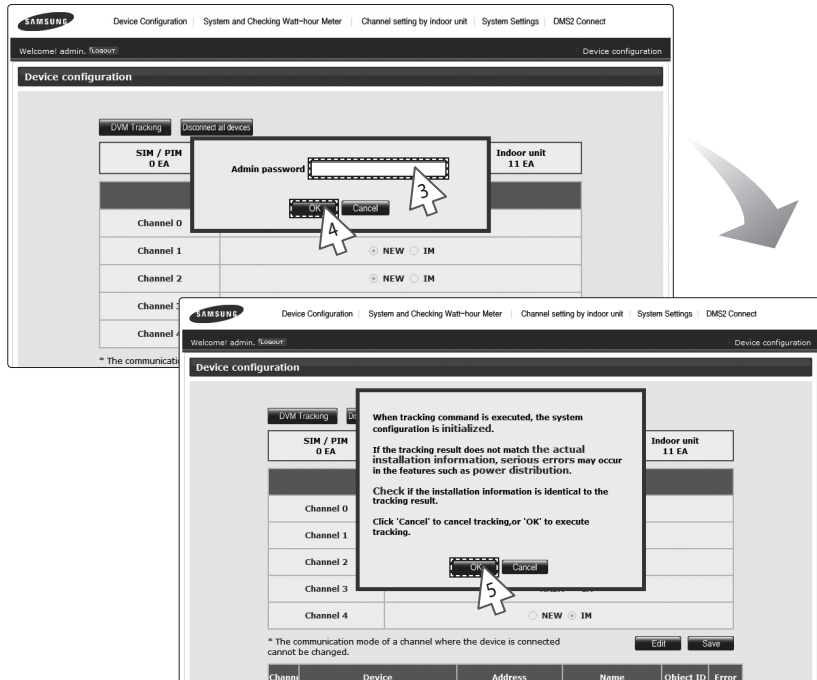
\* The communication mode of a channel where the device is connected cannot be changed.

Edit Save

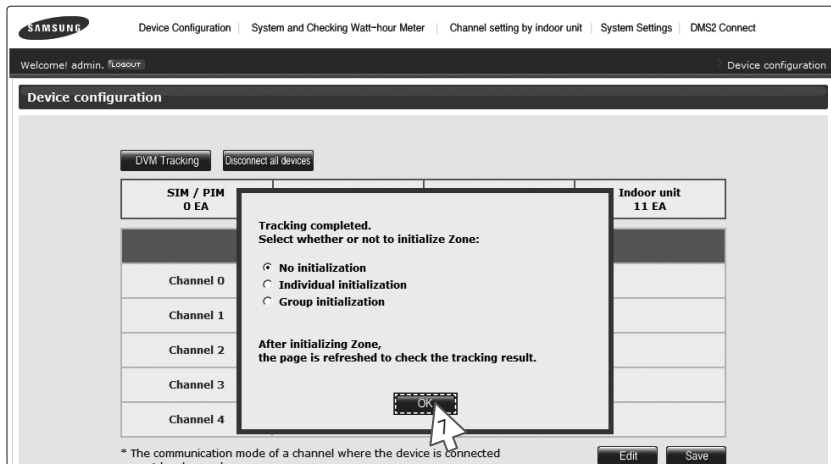
1 Click [Device Configuration].

2 Click [DVM Tracking].

## Tracking (Continued)



- 3 Enter administrator's password.
- 4 Click [OK].
- 5 Tracking information window pops up. Check it and click [OK] to continue.
  - ◆ Execute tracking depending on the communication mode set by communication mode setting for each channel.
    - ▶ Tracking will be executed only to the channels, which communication mode is set to either 'NEW' or 'IM'.
- 6 Pop-up window with message "Tracking is in progress. Please wait." will appear.
  - ◆ Tracking takes from few seconds to 5 minutes. However, it may vary depending on the number of installed controllers.



- 7 Message will appear to alert that tracking is completed. Select the zone initializing mode and click [OK].

- ◆ No initialization: No zone information initialization will be made.
- ◆ Individual initialization: Initialize zone information as individual mode.
- ◆ Group initialization: Initialize zone information as group mode.

- 8 Page will be refreshed by clicking [OK]. Then you can check the tracking result.

- Note**
- ◆ If tracking is executed successfully while 'NEW' is set as communication mode for each channel, virtual OnOff controller will be assigned to each channel.
  - ◆ If there is no searched outdoor unit, OnOff controller, SIM/PIM, it is regarded as DVM tracking failure.
  - ◆ If there are devices which have same address, first searched device will be registered only.
    - ※ Searching order is not fixed.
  - ◆ The number of OnOff controller does not contain the number of virtual centralized controller.
  - ◆ Total number of indoor units includes general indoor units, ERV and AHU.



CAUTION

- ◆ If you execute tracking, system setting will be initialized.
- ◆ If tracking result does not match with actual installation information, there can be critical error in additional functions such as power distribution.
- ◆ Make sure that tracking information matches to actual installation information after tracking.

## Device Configuration

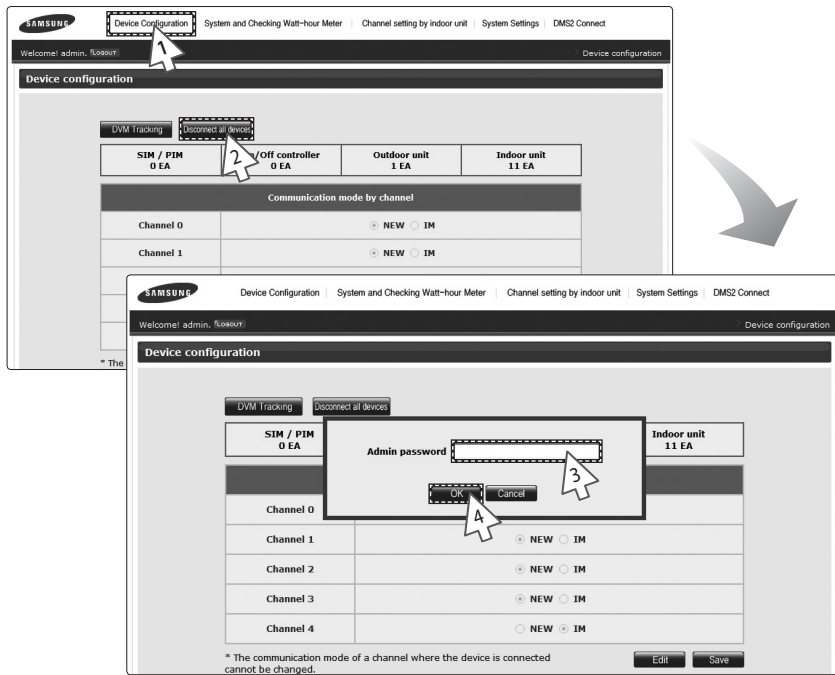
### Disconnect all devices

#### Function

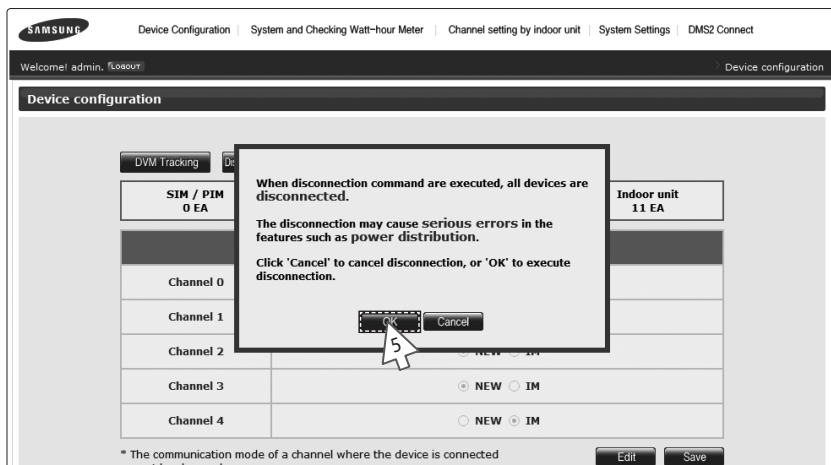
Initialize searched device status in BACnet Gateway.

Monitoring and controlling of all the connected devices to BACnet Gateway will be stopped when you use this function.

- ◆ Connect searched device to the other channel and execute tracking. If the other device is searched in the channel you want to use, use 'Disconnect all devices' function.
- ◆ If you use this function, BACnet Gateway device connection status will be initialized.



- 1 Click [Device Configuration].
- 2 Click [Disconnect all devices].
- 3 Enter administrator's password.
- 4 Click [OK].



- 5 When the information window pops up, you must check the information and click [OK] to continue.
- 6 When message with "Reading data from DMS. Please wait" appears and all the devices are disconnected, page will be refreshed.

**Note**

- ◆ After executing 'Disconnect all device function', device search status of BACnet Gateway will be initialized.
- ◆ You should execute tracking again after using disconnect all devices function.

## Device Configuration (Continued)

### Renaming the devices

Channel	Device	Address	Name	Object ID	Error
CH0	On/Off controller	11	CAUR-11	901164	
	Outdoor unit (000.016.001.000)	11.01.00	11.01.00		
	Indoor unit (000.032.001.001)	11.01.01 (255)	11.01.01	957701	
	Indoor unit (000.032.001.002)	11.01.02 (255)	11.01.02	957702	
	Indoor unit (000.032.001.005)	11.01.05 (255)	11.01.05	957705	
	Indoor unit (000.032.001.006)	11.01.06 (255)	11.01.06	957706	
	Indoor unit (000.032.001.008)	11.01.08 (255)	11.01.08	957708	
	Indoor unit (000.032.001.009)	11.01.09 (255)	11.01.09	957709	
	Indoor unit (000.032.001.010)	11.01.10 (255)	11.01.10	957710	
	Indoor unit (000.032.001.011) (AHU)	11.01.11 (255)	11.01.11	957711	
	Indoor unit (000.032.001.012) (ERVPLUS)	11.01.12 (255)	11.01.12		
	Indoor unit (000.032.001.013) (AHU)	11.01.13 (17)	11.01.13	957713	
	Indoor unit (000.032.001.014) (MINIAHU)	11.01.14 (255)	11.01.14	957714	
DMS	DMS DI-DO <span>Setting</span>	56	DMS DI-DO	930864	

Edit Save

- From the list of devices searched by tracking, click [Edit] in the bottom of the list.  
◆ [Edit] will be changed to [Cancel].

**Note** If you click [Cancel] button, [Cancel] button will be switched to [Edit] button and the changed name of devices will be restored to original name.

Channel	Device	Address	Name	Object ID	Error
CH0	On/Off controller	11	CAUR-11	901164	
	Outdoor unit (000.016.001.000)	11.01.00	11.01.00		
	Indoor unit (000.032.001.001)	11.01.01 (255)	11.01.01	957701	
	Indoor unit (000.032.001.002)	11.01.02 (255)	11.01.02	957702	
	Indoor unit (000.032.001.005)	11.01.05 (255)	11.01.05	957705	
	Indoor unit (000.032.001.006)	11.01.06 (255)	11.01.06	957706	
	Indoor unit (000.032.001.008)	11.01.08 (255)	11.01.08	957708	
	Indoor unit (000.032.001.009)	11.01.09 (255)	11.01.09	957709	
	Indoor unit (000.032.001.010)	11.01.10 (255)	11.01.10	957710	
	Indoor unit (000.032.001.011) (AHU)	11.01.11 (255)	11.01.11	957711	
	Indoor unit (000.032.001.012) (ERVPLUS)	11.01.12 (255)	11.01.12		
	Indoor unit (000.032.001.013) (AHU)	11.01.13 (17)	11.01.13	957713	
	Indoor unit (000.032.001.014) (MINIAHU)	11.01.14 (255)	11.01.14	957714	
DMS	DMS DI-DO <input type="button" value="Setting"/>	56	DMS DI-DO	930864	

- 2 Enter the name of the devices when the text box enables.
  - ◆ You cannot use special characters within the device name.
  - ◆ The device name should be within 16 letters.
- 3 Click [Save] after setting is completed.
  - ◆ If you click [Cancel], text boxes will be disabled and the [Cancel] button will be switched to [Edit].
- 4 When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'Tracking' screen appears again as all items are disabled.



## Device Configuration (Continued)

### Checking device information

Channel	Device	Address	Name	Object ID	Error
CH0	On/Off controller	11	CAUR-11	901164	
	Outdoor unit (000.016.001.000)	11.01.00	11.01.00		
	Indoor unit (000.032.001.001)	11.01.01 (255)	11.01.01	957701	
	Indoor unit (000.032.001.002)	11.01.02 (255)	11.01.02	957702	
	Indoor unit (000.032.001.005)	11.01.05 (255)	11.01.05	957705	
	Indoor unit (000.032.001.006)	11.01.06 (255)	11.01.06	957706	
	Indoor unit (000.032.001.008)	11.01.08 (255)	11.01.08	957708	
	Indoor unit (000.032.001.009)	11.01.09 (255)	11.01.09	957709	
	Indoor unit (000.032.001.010)	11.01.10 (255)	11.01.10	957710	
	Indoor unit (000.032.001.011) (AHU)	11.01.11 (255)	11.01.11	957711	
	Indoor unit (000.032.001.012) (ERVPLUS)	11.01.12 (255)	11.01.12		
	Indoor unit (000.032.001.013) (AHU)	11.01.13 (17)	11.01.13	957713	
	Indoor unit (000.032.001.014) (MINIAHU)	11.01.14 (255)	11.01.14	957714	
DMS	DMS DI-DO <input type="button" value="Setting"/>	56	DMS DI-DO	930864	

SAMSUNG Device Configuration | System and Checking Watt-hour Meter | Channel setting by indoor unit | System Settings | DMS2 Connect

Welcome! admin, f.wscore

Device configuration | Device Information

### Device Information

Address : 00.00.00 Device type : Indoor unit

<< BACK

Device Data	
Property Identifier	Value
Object_Identifier	3640000
Object_Name	36_00.00.00
Object_Type	DEVICE
Firmware_Revision	1.20

- Click one of the Object ID from 'Object ID' column.  
Detail information of the selected device will be displayed in device information.

Analog Data			
Object ID	Type	Object Name	Value
1	AI	AC_RoomTemp	20[°C]
2	AV	AC_Temp_Set	<input type="text" value="24"/> [°C]
3	AV	AC_Cool_LimitTemp	<input type="text" value="24"/> [°C]
4	AV	AC_Heat_LimitTemp	<input type="text" value="30"/> [°C]
5	AI	AC_Baseline_kWh	0[kWh]
6	AI	AC_Baseline_Minute	33[Min]
7	AI	AC_Period_kWh	10.5[kWh]
8	AI	AC_Period_Minute	0[Min]
19	AI	AC_Error_Code	

- 2 Analog data of the selected device will be displayed in Analog data.
  - ◆ Object ID: Displays ID of the corresponding object.
  - ◆ Type: Displays type of the corresponding object.
    - AI: Input (Read Only)
    - AO: Output (Read/Write)
    - AV: Value (Read/Write)
  - ◆ Object Name: Displays the name of the corresponding object.
  - ◆ Value: Displays the current value of the corresponding object.
    - Unit will be displayed between [ ].
- 3 You can enter numbers to modify the Output type objects. Click [Edit] button on the bottom of the 'Device configuration' screen and enter the value when the text box enables.
- 4 Click [Save] after setting is completed.
  - ◆ If you click [Cancel], text boxes will be disabled and the [Cancel] button will be switched to [Edit].
- 5 When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'Device configuration' screen appears again as all items are disabled.

## Device Configuration (Continued)

Binary Data			
Object ID	Type	Object Name	Value
9	BV	AC_Power	<input type="radio"/> On <input checked="" type="radio"/> Off
10	BV	AC_Cool_Limit_set	<input type="radio"/> On <input checked="" type="radio"/> Off
11	BV	AC_Heat_Limit_set	<input type="radio"/> On <input checked="" type="radio"/> Off
12	BI	AC_FilterSign	<input type="radio"/> On <input checked="" type="radio"/> Off
13	BO	AC_FilterSign_Reset	<input type="radio"/> On <input checked="" type="radio"/> Off

- 6 Binary data of the selected device will be displayed in Binary data.
  - ◆ Object ID: Displays ID of the corresponding object.
  - ◆ Type: Displays type of the corresponding object.
    - BI: Input (Read Only)
    - BO: Output (Read/Write)
    - BV: Value (Read/Write)
  - ◆ Object Name: Displays the name of the corresponding object.
  - ◆ Value: Displays the current value of the corresponding object.
    - It will be displayed either On or Off
- 7 You can select the values to modify the Output type objects. Click [Edit] button on the bottom of the 'Device configuration' screen and select the value from On or Off when the button enables.
- 8 Click [Save] after setting is completed.
  - ◆ If you click [Cancel], buttons will be disabled and the [Cancel] button will be switched to [Edit].
- 9 When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'Device configuration' screen appears again as all items are disabled.

Multi-state Data			
Object ID	Type	Object Name	Value
14	MV	AC_Operation_Mode	Auto
15	MV	AC_FanSpeed	Auto
16	MV	AC_FanFlow	None
17	MV	AC_Mode_Limit	No_Lim
18	MV	AC_Remocon_Limit	Disable_RC

Baseline : 2012-05-29, 2012-06-28    Period : 2012-07-04, 2012-07-04

Edit Save

- 10 Multi-state Data of the selected device will be displayed in Multi-state data.
  - ◆ Object ID: Displays ID of the corresponding object.
  - ◆ Type: Displays type of the corresponding object.
    - MI: Input (Read Only)
    - MO: Output (Read/Write)
    - MV: Value (Read/Write)
  - ◆ Object Name: Displays the name of the corresponding object.
  - ◆ Value: Displays the current value of the corresponding object.
- 11 You can select the values to modify the Output type objects. Click [Edit] button on the bottom of the 'Device configuration' screen and select the value when the list box enables.
- 12 Click [Save] after setting is completed.
  - ◆ If you click [Cancel], buttons will be disabled and the [Cancel] button will be switched to [Edit].
- 13 When message with "Reading data from DMS. Please wait" appears saving is completed. Then, 'Device configuration' screen appears again as all items are disabled.

**Note** Please refer to BACnet Point List to check the device configuration data for each device (Refer to page 62~66).

## BACnet Protocol Implementation Conformance Statement

Date: 2012. 10. 30

Vendor Name: SAMSUNG Electronics CO., Ltd.

Product Name: DMS BACnet Gateway

Product Model Number: MIM-B17

Application Software Version: 1.20 Firmware Revision: 1.20 BACnet Protocol Revision: 2.0

### Product Description:

This product supports BACnet/IP and provide functions to monitor and control status of air conditioner.

### BACnet Standardized Device Profile (Annex L):

- ☐ BACnet Operator Workstation (B-OWS)
- ☐ BACnet Advanced Operator Workstation (B-AWS)
- ☐ BACnet Operator Display (B-OD)
- ☐ BACnet Building Controller (B-BC)
- ☐ BACnet Advanced Application Controller (B-AAC)
- ☒ BACnet Application Specific Controller (B-ASC)
- ☐ BACnet Smart Sensor (B-SS)
- ☐ BACnet Smart Actuator (B-SA)

### List all BACnet Interoperability Building Blocks Supported (Annex K):

	SUPPORTED BIBBS	BIBB NAME	SUPPORTED	REMARKS
Data Sharing	DS-RP-A	Data Sharing-ReadProperty-A	<input type="checkbox"/>	
	DS-RP-B	Data Sharing-ReadProperty-B	<input checked="" type="checkbox"/>	
	DS-RPM-A	Data Sharing-ReadPropertyMultiple-A	<input type="checkbox"/>	
	DS-RPM-B	Data Sharing-ReadPropertyMultiple-B	<input checked="" type="checkbox"/>	
	DS-RPC-A	Data Sharing-ReadPropertyConditional-A	<input type="checkbox"/>	
	DS-RPC-B	Data Sharing-ReadPropertyConditional-B	<input type="checkbox"/>	
	DS-WP-A	Data Sharing-WriteProperty-A	<input type="checkbox"/>	
	DS-WP-B	Data Sharing-WriteProperty-B	<input checked="" type="checkbox"/>	
	DS-WPM-A	Data Sharing-WritePropertyMultiple-A	<input type="checkbox"/>	
	DS-WPM-B	Data Sharing-WritePropertyMultiple-B	<input checked="" type="checkbox"/>	
	DS-COV-A	DataSharing-COV-A	<input type="checkbox"/>	
	DS-COV-B	DataSharing-COV-B	<input checked="" type="checkbox"/>	
	DS-COVP-A	DataSharing-COVP-A	<input type="checkbox"/>	
	DS-COVP-B	DataSharing-COVP-B	<input type="checkbox"/>	
	DS-COVU-A	DataSharing-COV-Unsolicited-A	<input type="checkbox"/>	
	DS-COVU-B	DataSharing-COV-Unsolicited-B	<input type="checkbox"/>	

	SUPPORTED BIBBS	BIBB NAME	SUPPORTED	REMARKS
Alarm and Event Management	AE-N-A	Alarm&Event-Notification-A	<input type="checkbox"/>	Optional Support
	AE-N-I-B	Alarm&Event-Notification Internal-B	■	
	AE-N-E-B	Alarm&Event-Notification External-B	<input type="checkbox"/>	
	AE-ACK-A	Alarm&Event-ACK-A	<input type="checkbox"/>	
	AE-ACK-B	Alarm&Event-ACK-B	<input type="checkbox"/>	
	AE-ASUM-A	Alarm&Event-Summary-A	<input type="checkbox"/>	
	AE-ASUM-B	Alarm&Event-Summary-B	<input type="checkbox"/>	
	AE-ESUM-A	Alarm&Event-Enrollment Summary-A	<input type="checkbox"/>	
	AE-ESUM-B	Alarm&Event-Enrollment Summary-B	<input type="checkbox"/>	
	AE-INFO-A	Alarm&Event-Information-A	<input type="checkbox"/>	
	AE-INFO-B	Alarm&Event-Information-B	<input type="checkbox"/>	
	AE-LS-A	Alarm&Event-LifeSafety-A	<input type="checkbox"/>	
	AE-LS-B	Alarm&Event-LifeSafety-B	<input type="checkbox"/>	
Scheduling	SCHED-A	Scheduling-A	<input type="checkbox"/>	
	SCHED-I-B	Scheduling-Internal-B	<input type="checkbox"/>	
	SCHED-E-B	Scheduling-External-B	<input type="checkbox"/>	
Trending	T-VMT-A	Viewing and Modifying Trends-A	<input type="checkbox"/>	
	T-VMT-I-B	Viewing and Modifying Trends Internal-B	<input type="checkbox"/>	
	T-VMT-E-B	Viewing and Modifying Trends External-B	<input type="checkbox"/>	
	T-ATR-A	Automated Trend Retrieval-A	<input type="checkbox"/>	
	T-ATR-B	Automated Trend Retrieval-B	<input type="checkbox"/>	
	T-MMMV-A	Viewing and Modifying Multiple Values-A	<input type="checkbox"/>	
	T-MMMV-I-B	View and Modifying Multiple Values Internal-B	<input type="checkbox"/>	
	T-MMMV-E-B	View and Modifying Multiple Values External-B	<input type="checkbox"/>	
	T-AMVR-A	Automated Multiple Value Retrieval-A	<input type="checkbox"/>	
	T-AMVR-B	Automated Multiple Value Retrieval-B	<input type="checkbox"/>	
Device and Network Management	DM-DDB-A	Dynamic Device Binding-A	<input type="checkbox"/>	
	DM-DDB-B	Dynamic Device Binding-B	■	
	DM-DOB-A	Dynamic Object Binding-A	<input type="checkbox"/>	
	DM-DOB-B	Dynamic Object Binding-B	■	
	DM-DCC-A	DeviceCommunicationControl-A	<input type="checkbox"/>	
	DM-DCC-B	DeviceCommunicationControl-B	<input type="checkbox"/>	
	DM-TM-A	Text Message-A	<input type="checkbox"/>	
	DM-TM-B	Text Message-B	<input type="checkbox"/>	
	DM-TS-A	Time Synchronization-A	<input type="checkbox"/>	
	DM-TS-B	Time Synchronization-B	■	
	DM-UTC-A	UTCTime Synchronization-A	<input type="checkbox"/>	
	DM-UTC-B	UTCTime Synchronization-B	<input type="checkbox"/>	
	DM-RD-A	ReinitializeDevice-A	<input type="checkbox"/>	
	DM-RD-B	ReinitializeDevice-B	<input type="checkbox"/>	
	DM-BR-A	Backup&Restore-A	<input type="checkbox"/>	
	DM-BR-B	Backup&Restore-B	<input type="checkbox"/>	

## BACnet Protocol Implementation Conformance Statement (Continued)

	SUPPORTED BIBBS	BIBB NAME	SUPPORTED	REMARKS
Device and Network Management	DM-R-A	Restart-A	<input type="checkbox"/>	
	DM-R-B	Restart-B	<input type="checkbox"/>	
	DM-LM-A	List Manipulation-A	<input type="checkbox"/>	
	DM-LM-B	List Manipulation-B	<input type="checkbox"/>	
	DM-OCD-A	Object Creation & Deletion-A	<input type="checkbox"/>	
	DM-OCD-B	Object Creation & Deletion-B	<input type="checkbox"/>	
	DM-VT-A	Virtual Terminal-A	<input type="checkbox"/>	
	DM-VT-B	Virtual Terminal-B	<input type="checkbox"/>	
	NM-CE-A	Connection Establishment-A	<input type="checkbox"/>	
	NM-CE-B	Connection Establishment-B	<input type="checkbox"/>	
	NM-RC-A	Router Configuration-A	<input type="checkbox"/>	
	NM-RC-B	Router Configuration-B	<input type="checkbox"/>	

### Segmentation Capability:

☐ Segmented requests supported Window Size \_\_\_\_\_

☐ Segmented responses supported Window Size \_\_\_\_\_

### Standard Object Types Supported:

Object-Type	Supported	Dynamically Creatable	Dynamically Deletable	Writeable Properties
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Analog Output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Present value
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Present value
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Present value
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Device	Yes	n/a	n/a	n/a
Event Enrollment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
File	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Loop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Multi-state Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Present value
Multi-state Output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Multi-state Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Present value
Notification Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recipient_List
Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### Data Link Layer Options:

☒ BACnet IP, (Annex J)

☐ BACnet IP, (Annex J), Foreign Device

☐ ISO 8802-3, Ethernet (Clause 7)

☐ ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)

☐ ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s) \_\_\_\_\_

☐ MS/TP master (Clause 9), baud rate(s): \_\_\_\_\_

☐ MS/TP slave (Clause 9), baud rate(s): \_\_\_\_\_

☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s): \_\_\_\_\_

☐ Point-To-Point, modem, (Clause 10), baud rate(s): \_\_\_\_\_

☐ LonTalk, (Clause 11), medium: \_\_\_\_\_

☐ BACnet/ZigBee (ANNEX O)

☐ Other: \_\_\_\_\_

#### Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☐ Yes ☒ No

#### Networking Options:

☐ Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.

☐ Annex H, BACnet Tunneling Router over IP

☐ BACnet/IP Broadcast Management Device (BBMD)

Does the BBMD support registrations by Foreign Devices? ☐ Yes ☐ No

Does the BBMD support network address translation? ☐ Yes ☐ No

#### Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

☒ ANSI X3.4 ☐ IBM™/Microsoft™ DBCS ☐ ISO 8859-1

☐ ISO 10646 (UCS-2) ☐ ISO 10646 (UCS-4) ☐ JIS 0208

**If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:**

This gateway switches SAMSUNG air conditioner protocol to BACnet protocol to make RS-485 communication possible with the air conditioners connected to gateway.



## Standard Object Types Supported

Object Type	Support	Description
Analog Input	■	[Indoor temperature], [The power value after the basic date], [The number of hours usage of an indoor unit after the basic date], [Power value within period], [The number of hours usage of an indoor unit within period], [Indoor unit error code], [AHU error code], [ERV error code], [EHS error code], [Current temperature of water out], [Current temperature of hot water], [Centralized controller error code], [Interface module error code], [SIM interface module error code], [DMS status], [DMS error], [Discharge current temperature], [Outside temperature]
Analog Output	□	
Analog Value	■	[Set temperature], [Setting lower temperature limit], [Setting upper temperature limit], [Discharge cooling set temperature], [Discharge heating set temperature], [Cool capacity compensation], [Heat capacity compensation], [Set temperature of water out], [Set temperature of hot water], [Lower temperature limit for water out], [Upper temperature limit for water out], [Upper temperature limit for hot water]
Averaging	□	
Binary Input	■	[DI], [Filter sign status], [Compressor status], [Displayed temperature type], [Thermostat usage], [Outing]
Binary Output	■	[DO], [Filter sign reset], [All Device off]
Binary Value	■	[Power On/Off control], [Setting the function of limiting lower temperature], [Setting the function of limiting upper temperature], [SPI setting], [HumanSensor setting], [Humidification setting], [Outdoor air intake setting], [Outdoor cooling setting], [Apply lower temperature limit for water out], [Apply upper temperature limit for water out], [Apply upper temperature limit for hot water], [On/Off status of hot water mode], [Status of quiet operation]
Calendar	□	
Command	□	
Device	■	[DMS], [A/C Indoor Unit], [ERV], [AHU], [EHS], [SIM], [Centralized controller], [Interface module], [DDC]
Event Enrollment	□	
File	□	
Group	□	
Life Safety Point	□	
Life Safety Zone	□	
Loop	□	
Multi-state Input	■	[Current humidity status]
Multi-state Output	□	
Multi-state Value	■	[Operation mode control], [Fan speed control], [Air flow direction control], [Setting Cool only/ Heat only/ No Limit], [Control Enable RC/ Disable RC /Level1], [Set humidity status], [Status of hot water operation mode]
Notification Class	■	[AC Indoor Notify], [ERV Notify], [AHU Notify], [Centralized Controller Notify], [Interface Module Notify], [SIM Notify], [Gateway Notify], [EHS Notify]
Program	□	
Pulse Converter	□	
Schedule	□	
Trend Log	□	
Access Door	□	
Event Log	□	
Load Control	□	
Structured View	□	
Trend Log Multiple	□	

## Detail Description of Object

### Device

Following table shows regulation of device ID and they are created automatically.

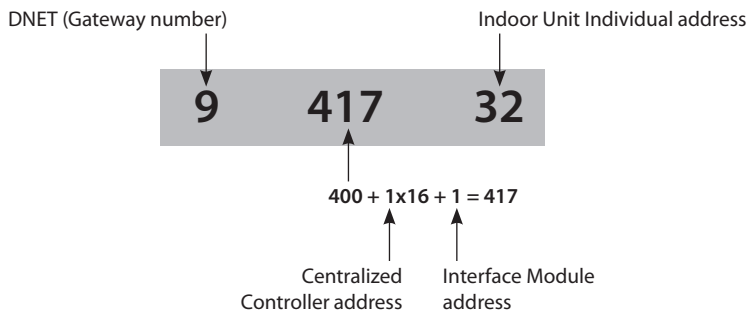
Item	DNET - Range [Digit 2]	CPP - Range [Digit 3]	INDOOR - Range [Digit 2]
Centralized Controller	1~40	000~015	64
SIM	1~40	100~115	64
DMS DI/DO	1~40	300~315	64
Interface Module	1~40	400~655 (16 x 16)	64
Indoor Unit, ERV AHU kit, EHS	1~40	400~655	0~63
Gateway	1~40	900	64

#### Ex) Indoor Unit

**DNET (Gateway number): 9**

**Indoor Unit Address: 01.01.32**

**Device ID: 941732**



#### ◆ Object of device

Refer to BACnet point List

## BACnet Point 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					
2	Set temperature	AV	AC_Temp_Set_xx_xxxxxx	°C					
3	Setting lower temperature limit	AV	AC_Cool_LimitTemp_xx_xxxxxx	°C					
4	Setting upper temperature limit	AV	AC_Heat_LimitTemp_xx_xxxxxx	°C					
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		
16	Air flow direction status	MV	AC_FanFlow_xx_xxxxxx	None	Vertical	Horizon	All		
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 list of error code					
* 20	SPI setting	BV	AC_SPI_xx_xxxxxx	False	True				
* 21	HumanSensor setting	BV	AC_MDS_xx_xxxxxx	False	True				
22	AC Indoor Notify	NC	AC_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max : 8)					

※ Temperature setting range can be different depending on the model and the common range is as follows:

Auto: 18°C~30°C

Cool: 18°C~30°C

Heat: 16°C~30°C

Fan: Temperature cannot be adjusted

Dry: 18°C~30°C

(\*) Mark is optionally 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						
2	Set temperature	AV	AHU_Temp_Set_xx_xxxxxx	°C						
3	Setting lower temperature limit	AV	AHU_Cool_LimitTemp_xx_xxxxxx	°C						
4	Setting upper temperature limit	AV	AHU_Heat_LimitTemp_xx_xxxxxx	°C						
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						
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 list of error code						
* 18	Discharge cooling set temperature	AV	AHU_DisCoolSetTemp_xx_xxxxxx	°C						
* 19	Discharge heating set temperature	AV	AHU_DisHeatSetTemp_xx_xxxxxx	°C						
* 20	Discharge current temperature	AI	AHU_Dis_CurrentTemp_xx_xxxxxx	°C						
* 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)						

(\*) Mark is optionally supported.

## BACnet Point List (Continued)

### EHS

Single EHS 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	
1	Room temperature	AI	EHS_RoomTemp_xx_xxxxxx	℃				
2	Set temperature	AV	EHS_Temp_Set_xx_xxxxxx	℃	Use when displayed temperature type is set to 'Room'.			
3	Set temperature of water out	AV	EHS_WaterOutTemp_Set_xx_xxxxxx	℃	Use when displayed temperature type is set to 'WaterOut'.			
4	Set temperature of hot water	AV	EHS_HotWaterTemp_Set_xx_xxxxxx	℃				
5	Setting lower temperature limit	AV	EHS_Cool_LimitTemp_xx_xxxxxx	℃	Use when displayed temperature type is set to 'Room'.			
6	Setting upper temperature limit	AV	EHS_Heat_LimitTemp_xx_xxxxxx	℃	Use when displayed temperature type is set to 'Room'.			
7	Lower temperature limit for water out	AV	EHS_WOCoolLimitTemp_xx_xxxxxx	℃				
8	Upper temperature limit for water out	AV	EHS_WOHeatLimitTemp_xx_xxxxxx	℃				
9	Upper temperature limit for hot water	AV	EHS_WTHeatLimitTemp_xx_xxxxxx	℃				
10	The power value after the basic date	AI	EHS_Baseline_kWh_xx_xxxxxx	kWh				
11	The number of hours usage of an indoor 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 indoor unit within period	AI	EHS_Period_Minute_xx_xxxxxx	Minute				
14	Current temperature of water out	AI	EHS_WOCurrentTemp_xx_xxxxxx	℃				
15	Current temperature of hot water	AI	EHS_HotWaterTemp_xx_xxxxxx	℃				
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	EHS_Power_xx_xxxxxx	Off	On			
20	Setting lower temperature limit	BV	EHS_Cool_LimitTemp_Set_xx_xxxxxx	False	True	Use when displayed temperature type is set to 'Room'.		
21	Setting upper temperature limit	BV	EHS_Heat_LimitTemp_Set_xx_xxxxxx	False	True	Use when displayed temperature type is set to 'Room'.		
22	Apply lower temperature limit for water out	BV	EHS_WOCoolLimitFlag_xx_xxxxxx	False	True	Use when displayed temperature type is set to 'WaterOut'.		
23	Apply upper temperature limit for water out	BV	EHS_WOHeatLimitFlag_xx_xxxxxx	False	True	Use when displayed temperature 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		Power
31	Integrated error code of both indoor unit and outdoor unit	AI	EHS_Error_Code_xx_xxxxxx					
32	EHS notify	NC	EHS_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max : 8)				

## ERV

Single ERV unit has following point list.

Instance Number	Object	Object Type	Object Name	Status value				
				Unit				
				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	Refer to list of error code				
8	ERV Notify	NC	ERV_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max : 8)				

## SIM

Single SIM has following point list.

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

## Centralized controller

Single Centralized controller has following point list.

Instance Number	Object	Object Type	Object Name	Status value
1	Centralized controller error code	AI	Central_Error_Code_xx_xx	Refer to the list of the integrated error code
2	Centralized 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

Single Interface module has following point list.

Instance Number	Object	Object Type	Object Name	Status value				
				Unit				
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Outside temperature	AI	ODU_Outside_Temp_xx_xxxx	°C				
* 2	Cool capacity compensation	AV	ODU_Cool_Compensation_xx_xxxx	0 : 5~7°C / 1 : 7~9°C / 2 : 9~11°C / 3 : 10~12°C / 4 : 11~13°C / 5 : 12~14°C / 6 : 13~15°C / 14 : Auto control (from ODU)				
* 3	Heat capacity compensation	AV	ODU_Heat_Compensation_xx_xxxx	0 : 25kg/cm <sup>2</sup> / 1 : 26kg/cm <sup>2</sup> / 2 : 27kg/cm <sup>2</sup> / 3 : 28kg/cm <sup>2</sup> / 4 : 29kg/cm <sup>2</sup> / 5 : 30kg/cm <sup>2</sup> / 6 : 31kg/cm <sup>2</sup> / 7 : 32kg/cm <sup>2</sup> / 8 : 33kg/cm <sup>2</sup> / 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.

## BACnet Point List (Continued)

### 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 Status	AI	DMS2_Status_xx	0: Normal, 8: Emergency stop, 105 : Tracking in progress, 108 : Tracking failed 109 : DMS2 ↔ 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)

### DDC

DDC has following point list.

Instance Number	Object	Object Type	Object Name	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

- ◆ **If communication error occurs on devices such as SIM/Centralized 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.**

## Other Information

### Object setting when there is communication error

If any communication error occurs between the air conditioner devices, the property will be set as below.

1. Reliability property will be set as COMMUNICATION\_FAILURE.
2. Fault / Alarm flag of Status\_Flags property will be set as TRUE.
3. Present\_Value property is readable but the value is not guaranteed.

### Object setting when there is general error

If any air conditioner related error occurs, the property will be set as below.

1. The Reliability property value of each object will be set as UNRELIABLE\_OTHER.
2. FAULT / Alarm flag of Status Flags property will be set as TRUE.

### Main service

#### Time setting

Time synchronization Service is a service that allows the time of BACnet Gateway to be synchronized with the time of PC.

#### COV (Change Of Value)

COV service is supported and you can set confirmed or unconfirmed COV.

You can set lifetime value.



***COV registration information will disappear when a BACnet gateway is switched off. The reserved value caused by the power supply problem is not guaranteed according to the BACnet regulation.***