

# DIII-NET/BACnet MS/TP Communication adaptor Installation Manual (1/2)

DTA118A71

Also see installation manual attached to equipment you connect.  
Please read these "SAFETY PRECAUTIONS" carefully before installing option adaptor and be sure to install it correctly.

- They both contain important information regarding safety. Be sure to observe all precautions without fail.

**WARNING** Failure to follow these instructions properly may result in personal injury or loss of life.

**CAUTION** Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- After completing installation, conduct a trial operation to check for faults. Ask the customer to store the installation manual.

## WARNING

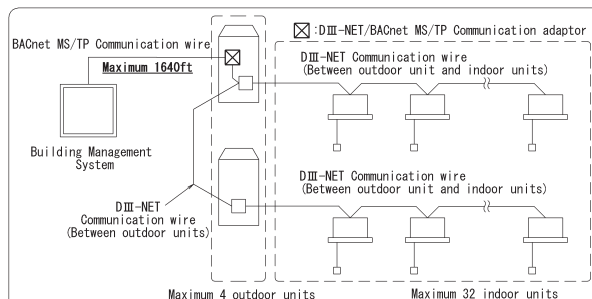
- Ask your dealer or other qualified personnel to carry out installation work. Do not attempt to install the unit yourself. Improper installation may result in an electric shock or fire.
- Do not relocate or reinstall the unit yourself. Improper installation work may result in an electric shock or fire. Ask your local dealer to carry out relocation and reinstallation of the unit.
- Install the unit in accordance with the instructions in this installation manual. Improper installation may result in an electric shock or fire.
- Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in the unit falling, an electric shock, or fire.
- Always perform installation work with the power supply shut off. Touching energized electric parts causes an electric shock.
- Do not disassemble, modify or repair the unit. An electric shock or fire may be caused.
- Make sure that all wiring is secured, that the specified wires are used, and that there is no strain on the terminal connections or wires. Improper connection or securing of wires may result in abnormal heat build-up or fire.
- The choice of materials and installations must comply with the applicable national and international standards.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local laws and regulations and this installation manual. An insufficient power supply capacity or improper electrical construction may lead to an electric shock or fire.
- When wiring the power supply and connecting the transmission wiring, position the wires so that the electric parts box lid can be securely fastened. Improper positioning of the electric parts box lid may result in an abnormal heat build-up, an electric shock, or fire.

## CAUTION

- Be very careful about product transportation.
- Safely dispose of the packing materials. Tear apart and throw away plastic packaging bags so that children will not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.
- In a domestic environment, this product may cause radio interference. In such case, the user may be required to take adequate measures.
- Disposal requirements: Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.
- Fill the wiring through hole with putty. Entry of water or insects may result in electric leakage or malfunction.
- Do not operate with wet hands. An electric shock and malfunction may be caused.
- Do not wash this unit with water. An electric shock or fire may be caused.

## 1 System Outline

This adaptor is an interface for use in the BACnet MS/TP network to enable monitoring and control of VRV units from a Building Management System. Refer to the design guide for details regarding control and monitoring BACnet objects.



**Note**

- The total wiring length of the BACnet MS/TP Communication wire must be within 1640ft.
- A maximum of 32 indoor units and 4 outdoor units can be controlled and monitored using the adaptor.
- A maximum of two adaptors can be connected to one DIII-NET network.
- A maximum of 32 devices can be connected to the same BACnet MS/TP network as the adaptor.

## 2 Accessories

The following items are included in the packaging.

Name	①DIII-NET/BACnet MS/TP Communication adaptor
Form	
No. of pcs.	1

Name	Installation Manual (1/2) (2/2)
No. of pcs.	1

### Contents of accessories bag

Name	②Power supply wire (White/Black)	③DIII-NET communication wire (Orange/Yellow)	④POB Support	⑤Clamp material	⑥Wire clip
No. of pcs.	1	1	4	1	3

## 3 Parts name and function

### DIP Switch (DS1/DS2)

This is the operation setting switch for DIII-NET/BACnet MS/TP Communication adaptor.

### LED (H1P~H7P:ORANGE)

This LED displays the status of the communication.

### Service Monitor LED (HAP:GREEN)

This LED flashes while the CPU is operating normally.

### Power Supply Connector (X1A)

Connector for 16VDC power supply from PCB in the outdoor unit.

### DIII-NET Communication connector (X7A)

Connector for DIII-NET Communication wire.

### Terminal block for BACnet MS/TP Communication (X2M)

Terminal block to connect the BACnet MS/TP Communication wire.

### Terminating Resistance (SS1/SS2/SS3)

Setup the terminating resistance for BACnet MS/TP Communication wire.

## 4 Mounting Method

Install the adaptor inside the control box of outdoor unit of same refrigerant circuit.

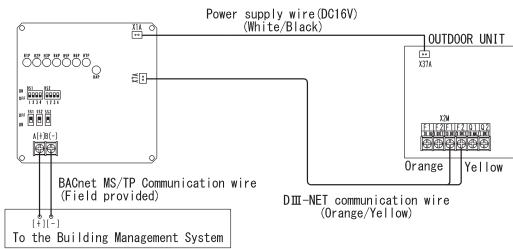
Outdoor unit Model	Mounting
RXY072_XA or T(A). REY072_XA or T(A). RWE**_RXTO**_RXSQ**	The adaptor cannot be mounted inside the outdoor unit.
REYQ_AA/RXYQ_AA	The adaptor can be mounted inside the E-box of the outdoor unit.
REYQ_XA/RXYQ_XA	The adaptor can be mounted inside the E-box of the outdoor unit using the BKS26A-US mounting plate.
REYQ_T(A)/RXYQ_T(A)	The adaptor can be mounted inside the E-box of the outdoor unit using the BKS26A-US mounting plate.
RELQ_TA/RXLQ_TA	The adaptor can be mounted inside the E-box of the outdoor unit using the BKS26A-US mounting plate.

## DIII-NET/BACnet MS/TP Communication adaptor Installation Manual (2/2)

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### 5 Electric Wiring

#### ● Install on the Outdoor unit



- Power Supply wiring**  
Connect between the (X1A) connector on the adaptor and the (X37A) connector on the outdoor unit PCB.
- DIII-NET Communication wiring**  
Connect between the (X7A) connector on the adaptor and the F1-F2 (TO OUT/D UNIT) terminal of the outdoor unit.
- BACnet MS/TP Communication wire (RS-485) (Field provided)**  
Connect between this adaptor BACnet MS/TP Communication Terminal (X2M) and Building Management System Terminal.  
Connect between this adaptor A1(-) connector and Building Management System Terminal F1(-) connector, B1(+) connector and Building Management System F2(+) connector.  
If shielded wire is used for the BACnet MS/TP communication, do not ground with outdoor unit earth.

See **4 Mounting Method** to know the wiring route.

#### Note

- Wire Specification of BACnet MS/TP Communication  
Use the Twister pair wire thickness 17~18 AWG.
- Maximum wire length between this adaptor and Building Management System is 1640ft.
- BACnet MS/TP Communication wire is polarity sensitive.  
Be sure to connect after checking the polarity of wire.

### 6 Field Configuration

#### (1) BACnet MS/TP Baud Rate

- DS1-1: BACnet MS/TP Communication setting  
Set according to the Building Management System network.

No.	Item	OFF	ON	
1	Auto Baud Rate	Auto Detect	Manual	<input type="checkbox"/> : Factory default

- In the case of manual select  
You can select the Baud rate by change instance number 7 of the adaptor's BACnet object.

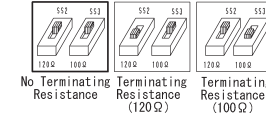
No.	Baud rate
1	9600bps
2	19200bps
3	38400bps

- DS1-2, 3, 4, DS2: BACnet MS/TP Communication MAC Address  
Set the address of this adaptor in accordance with the Fig. on the right

Factory default	
DS1	DS2
Address : 0	



#### Factory default



- Terminating Resistance (SS1/SS2/SS3)**  
Setup the terminating resistance in accordance with the Fig. on the right.  
(Note1) SS1 is not used.  
Please do not change.

Change the following settings from the Adaptor's BACnet Objects

- D3 Indoor Address**  
Set the group address range of the indoor unit connected to the adaptor.  
Reset the power of adaptor after setting change.
- D3 Outdoor Address**  
Set the Outdoor unit AirNet address range of the Outdoor unit connected to the adaptor.  
Reset the power of adaptor after setting change.
- Network Number**  
When connecting two or more adaptors at the same BACnet MS/TP line, set different network number for each adaptor.  
Reset the power of adaptor after setting change.

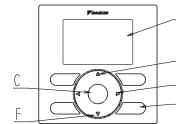
#### (6) Group Address setting

##### Note

- All indoor units be powered on before setting the DIII-NET address.
- The DIII-NET address needs to be unique between every indoor unit.

To use this adaptor, set the DIII-NET address on each indoor unit.  
Operation changes with the remote controllers to be used.

- Address setup using Navigation Remote Controller



- A Display
- B Up button
- C Menu/Enter button
- D Right button
- E Cancel button
- F Down button

- Press and hold the Cancel button (E) for 4 seconds or more.  
The "Service Settings" menu is displayed.
- Using the Up button (B) and Down button (F), select "Group Address" and press the Menu/Enter button (C).  
This option is only displayed when a centralized controller such as the DTA118A71 adaptor is connected to the DIII-NET network.
- Using the Up button (B) and Down button (F), select "Group Address (Group)" and press the Menu/Enter button (C).  
The current address setting is displayed.
- Press the Menu/Enter button (C) to release the current address setting.  
The mode indication changes from "Set to Release".  
You are now ready to change the DIII-NET address.
- Using the Up button (B) and Down button (F), select the address you want to set.
- Press the Menu/Enter button (C).  
The DIII-NET address has been set.
- Press the Cancel button (E) three times.  
You are now brought back to Basic Screen.

#### (7) Outdoor unit AirNet address setting

##### Note

- AirNet address setting is required to monitoring VRV/SkyAir outdoor unit data.
- All Outdoor units be powered on before setting the AirNet address.
- The AirNet address needs to be unique between every VRV/SkyAir outdoor unit.
- Outdoor unit AirNet Address setting is only available for VRV/SkyAir outdoor unit.

- Press and hold the Cancel button (E) for 4 seconds or more.  
The "Service Settings" menu is displayed.
- Using the Up button (B) and Down button (F), select "Outdoor unit AirNet Address" and press the Menu/Enter button (C).  
The current address setting is displayed.
- Using the Up button (B) and Down button (F), select the Unit No. you want to set.
- Press the Right button (D).
- Press the Menu/Enter button (C) to release the current address setting.  
The mode indication changes from "Set to Release".  
You are now ready to change the Outdoor unit AirNet Address.
- Using the Up button (B) and Down button (F), select the address you want to set.
- Press the Menu/Enter button (C).  
The Outdoor unit AirNet address has been set.
- Press the Cancel button (E) two times.  
You are now brought back to Basic Screen.

- Reset the power of adaptor**  
Reset the adaptor power after all settings change.